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IRRIGATION DEPARTMENT, PUNJAB.

ADMINISTRATION REPORT

FOR

1916-17.

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ADMINISTRATION REPORT FOR THE YEAR 1916-17.

Part I

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Lower Chenab Canal	" "	20-21 "
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PUNJAB CANALS.

YEAR.				AREA IRRIGATED, IN ACRES.		
				Punjab Canals, Major Works.	Punjab Canals, Minor Works.	Total.
1887-1888	...	...	...	1,422,775	918,328	2,341,103
1888-1889	...	...	...	1,749,957	997,428	2,747,385
1889-1890	...	...	...	1,863,456	994,710	2,858,166
1890-1891	...	...	...	2,033,500	982,953	3,016,456
1891-1892	...	...	...	2,144,392	1,049,154	3,193,546
1892-1893	...	...	...	1,847,882	1,079,709	2,927,591
1893-1894	...	...	...	1,908,654	958,654	2,867,308
1894-1895	...	...	...	1,855,858	1,063,296	2,919,154
1895-1896	...	...	...	2,852,383	939,200	3,791,583
1896-1897	...	...	...	3,649,303	980,110	4,629,413
1897-1898	...	...	...	4,053,289	1,158,360	5,211,649
1898-1899	...	...	...	3,372,501	981,264	4,353,765
1899-1900	...	...	...	4,384,972	859,522	5,244,494
1900-1901	...	...	...	4,642,852	1,357,699	6,000,551
1901-1902	...	...	...	4,491,888	981,521	5,473,409
1902-1903	...	...	...	4,864,274	815,690	5,679,964
1903-1904	...	...	...	5,610,737	779,547	6,390,284
1904-1905	...	...	...	5,689,132	617,252	6,306,384
1905-1906	...	...	...	6,163,369	751,067	6,914,436
1906-1907	...	...	...	5,902,995	808,317	6,711,312
1907-1908	...	...	...	5,515,886	524,558	6,040,444
1908-1909	...	...	...	6,385,050	968,096	7,353,146
1909-1910	...	...	...	6,117,004	969,607	7,086,611
1910-1911	...	...	...	6,270,757	956,285	7,227,042
1911-1912	...	...	...	7,469,645	862,247	8,331,892
1912-1913	...	...	...	7,461,251	968,130	8,429,381
1913-1914	...	...	...	7,351,721	971,748	8,323,469
1914-1915	...	...	...	7,883,628	1,079,413	8,963,041
1915-1916	...	...	...	7,982,532	902,279	8,884,811
1916-1917	...	...	...	8,433,867	1,085,957	9,519,824

From 1894-1895 to 1905-1906 the total areas shown are *net*, thereafter the areas are *gross*.

The areas include the Swat River Canal up to 1900-1901 ; after which date the canal was transferred to the North-West Frontier Province.

DIAGRAM
 SHOWING TOTAL AREA IRRIGATED
 BY
PUNJAB CANALS—MAJOR AND MINOR WORKS.

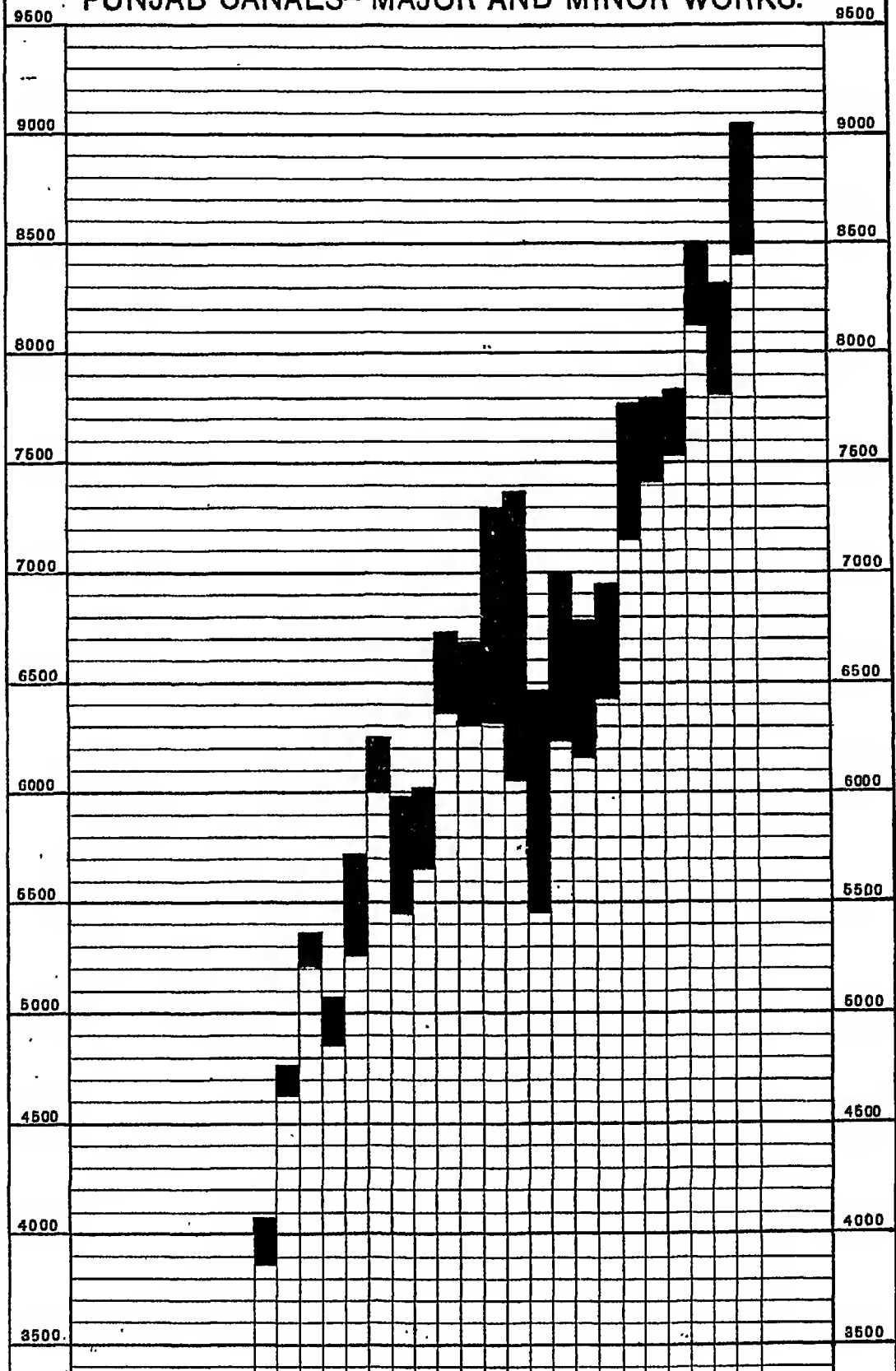
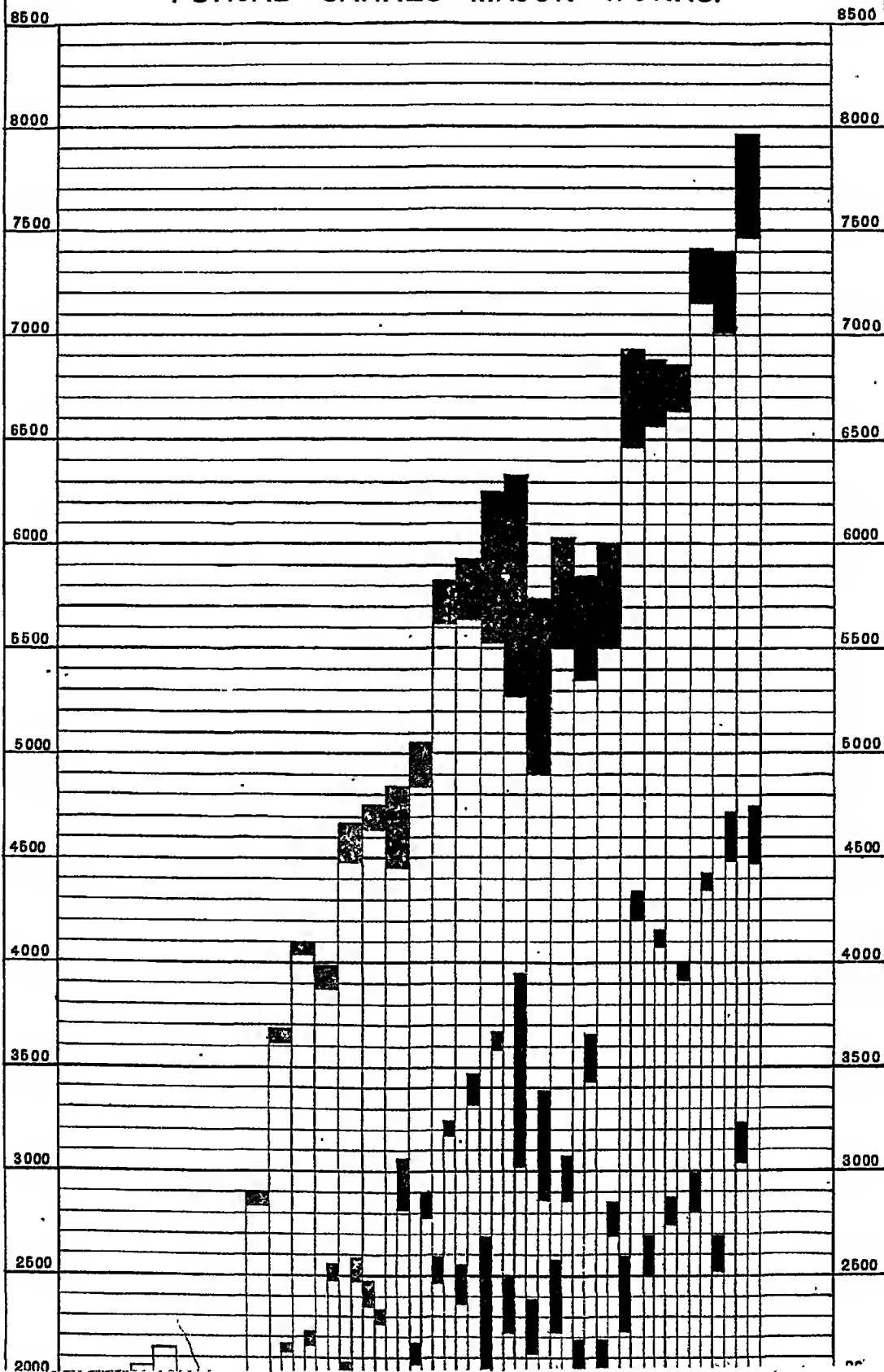


DIAGRAM SHOWING TOTAL AREA IRRIGATED BY PUNJAB CANALS—MAJOR WORKS.



PUNJAB CANALS, MAJOR WORKS.

YEAR.	AREA IRRIGATED, IN ACRES.			REMARKS.
	Kharif.	Rabi.	Total.	
1887-1888 ...	645,816	776,029	1,422,775	Lower Chenab Canal opened.
1888-1889 ...	715,682	1,034,325	1,749,957	
1889-1890 ...	661,677	1,201,779	1,863,456	
1890-1891 ...	757,535	1,275,965	2,033,500	
1891-1892 ...	697,454	1,416,988	2,114,392	Sirsa Branch of Western Jumna Canal opened.
1892-1893 ...	323,235	1,024,647	1,347,882	Decrease due entirely to the favourable winter rains of 1892-93 which greatly contracted the irrigated rabi area.
1893-1894 ...	711,001	1,192,653	1,903,654	Decrease as compared with 1891-92, due to general rainfall in rabi 1893-94, and would have been greater but for new irrigation on Chenab Canal.
1894-1895 ...	703,930	1,151,925	1,855,858	Decrease due to very favourable rainfall during rabi, particularly in Sirhind and Western Jumna Canal tracts.
1895-1896 ...	935,827	1,806,556	2,852,383	Increase chiefly due to partial failure of rains of 1895 and subsequent drought.
1896-1897 ...	1,531,969	2,114,334	3,646,303	Increase due to drought.
1897-1898 ...	1,777,563	2,275,724	4,053,289	Increase due to favourable year for irrigation and extensions.
1898-1899 ...	1,413,822	2,455,679	3,872,501	Decrease in kharif due to favourable state of rivers and scanty rainfall.
1899-1900 ...	1,888,308	2,496,574	4,384,972	
1900-1901 ...	2,354,174	2,238,678	4,612,852	
1901-1902 ...	1,686,043	2,805,795	4,491,838	Lower Jhelum Canal opened.
1902-1903 ...	2,071,363	2,792,911	4,864,274	The Upper Sutlej Inundation Canals were transferred from head "Minor Works" to "Major Works" from 1st April 1902.
1903-1904 ...	2,450,789	3,160,018	5,610,787	The Indus Inundation Canals were transferred from head "Minor Works" to "Major Works" from 1st April 1903.
1904-1905 ...	2,351,786	3,307,346	5,659,132	
1905-1906 ...	2,291,460	3,868,911	6,163,371	Decrease in kharif due to cotton failure.
1906-1907 ...	2,435,219	3,467,776	5,902,995	
1907-1908 ...	2,226,291	3,259,035	5,515,356	Decrease due to abnormally low supplies in the rivers.
1908-1909 ...	2,695,518	3,689,532	6,385,050	
1909-1910 ...	2,285,870	3,831,184	6,117,004	
1910-1911 ...	2,254,833	4,016,421	6,270,757	
1911-1912 ...	2,755,324	4,714,321	7,469,645	
1912-1913 ...	2,929,309	4,531,942	7,461,251	Upper Chenab Canal opened
1913-1914 ...	3,069,950	4,281,771	7,351,721	Lower Bari Doab Canal opened.
1914-1915 ...	3,184,751	4,698,877	7,883,628	
1915-1916 ...	2,886,678	5,095,954	7,982,532	Upper Jhelum Canal opened. Decrease in kharif due to drought and abnormally low supplies in the rivers.
1916-1917 ...	3,441,467	5,052,400	8,493,867	

The areas include the Swat River Canal up to 1900-1901, after which date the canal was transferred to the North-West Frontier Province.

From 1894-95 to 1905-1906 the total areas shown are net; thereafter the areas are gross.

PUNJAB CANALS, MINOR WORKS.

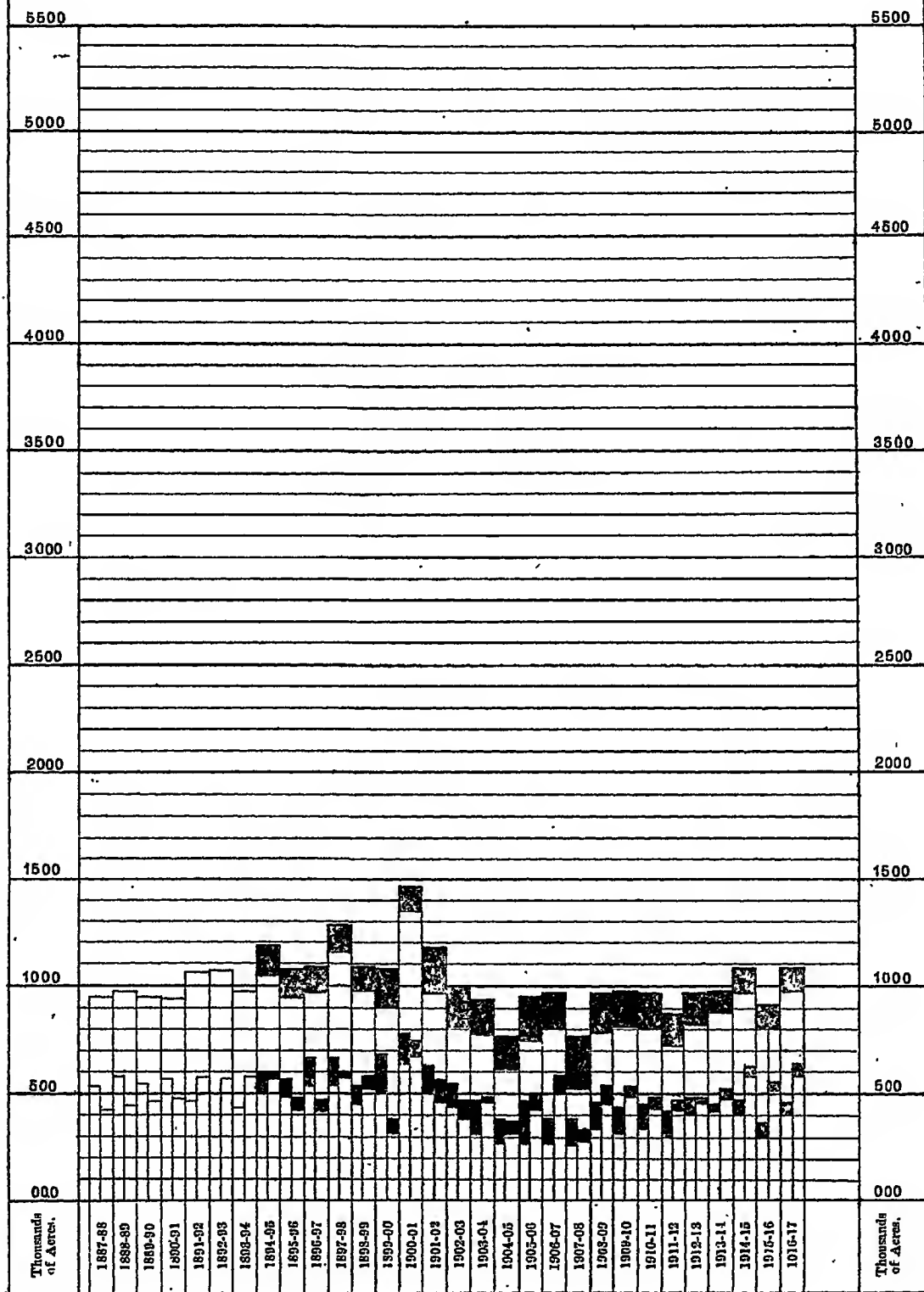
YEAR.	AREA IRRIGATED, IN ACRES.			REMARKS.
	Kharrif.	Rabi.	Total.	
1887-1888 ...	805,095	413,233	918,328	
1888-1889 ...	571,558	425,870	997,428	
1889-1890 ...	542,112	452,598	994,710	
1890-1891 ...	520,408	462,548	982,956	
1891-1892 ...	452,490	596,664	1,049,154	
1892-1893 ...	491,151	568,558	1,079,709	Rivers rose late, but subsequent supplies were good, and rainfall was favourable, the result being the largest area on record up to date.
1893-1894 ...	469,917	548,747	958,664	Decrease due to the destruction of kharrif crops by high floods and to less favourable working of the canals.
1894-1895 ...	500,218	563,048	1,063,266	
1895-1896 ...	477,957	461,243	939,200	
1896-1897 ...	533,745	426,365	960,110	
1897-1898 ...	565,562	592,778	1,158,360	
1898-1899 ...	463,402	530,862	984,264	
1899-1900 ...	520,893	338,629	859,522	
1900-1901 ...	669,563	688,136	1,357,699	
1901-1902 ...	508,416	573,105	981,521	
1902-1903 ...	424,819	390,871	815,690	Decrease due chiefly to the transfer of the Upper Sutlej Inundation Canals from head "Minor Works" to "Major Works" from 1st April 1902.
1903-1904 ...	316,418	463,129	779,547	Decrease due chiefly to the transfer of the Indus Inundation Canals from head "Minor Works" to "Major Works" from 1st April 1903.
1904-1905 ...	296,636	320,616	617,252	
1905-1906 ..	298,279	432,788	751,067	
1906-1907 ...	295,898	507,419	803,317	
1907-1908 ...	259,074	266,484	524,558	
1908-1909 ...	442,058	526,008	968,066	
1909-1910 ...	426,020	513,587	969,607	
1910-1911 ...	459,270	497,015	956,285	
1911-1912 ...	402,641	459,606	862,247	
1912-1913 ...	467,957	509,173	968,130	
1913-1914 ...	461,872	506,871	971,743	
1914-1915 ...	466,107	613,306	1,079,413	
1915-1916 ...	362,607	539,672	902,279	Decrease due to drought and abnormally low supplies in the rivers.
1916-1917 ...	452,348	633,609	1,085,957	

The above includes the areas irrigated by the Sanjhar Provincial Canals from 1890-1891 inclusive

The above includes the areas irrigated on Ghaggar Canals, British and Bikaner State.

From the year 1891-1895 to 1905-1906 the areas shown are net; thereafter the areas are gross.

DIAGRAM SHOWING TOTAL AREA IRRIGATED BY PUNJAB CANALS—MINOR WORKS.



REFERENCES.

The first sub-division of each annual column denotes the "Kharif" area, coloured red, and the second the "Rabi" area, coloured blue.

The black portions represent area remitted; the drab, net area, from the year 1894-95.

PUNJAB CANALS, MAJOR WORKS.

YEAR.	Capital outlay, Direct and Indirect, to end of year.	Interest charges to end of year.	Net revenue to end of year.	Accrue- ment profits to end of year (column 4— column 3).	FOR THE YEAR.			
					Gross revenue.	Working expenses.	Net revenue.	Percentage on capital.
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1887-1888	5,76,25,828	3,18,46,764	6,00,35,681	1,80,69,867	49,05,923	17,01,248	28,04,675	3'99
1888-1889	5,80,43,400	3,40,74,459	5,83,37,698	1,02,63,180	43,64,904	19,72,387	23,92,517	4'06
1889-1890	6,00,98,478	3,68,49,803	5,61,80,320	1,28,80,512	40,66,797	21,14,116	28,62,682	4'74
1890-1891	6,21,71,861	3,86,93,787	5,98,37,074	2,11,43,307	68,30,440	21,78,686	46,51,754	6'85
1891-1892	6,70,91,026	4,11,74,623	6,83,26,123	2,24,61,803	60,10,990	22,51,938	37,59,052	5'95
1892-1893	6,87,92,824	4,37,93,807	6,79,83,641	2,42,64,647	69,09,140	24,51,631	44,57,509	6'24
1893-1894	7,34,89,876	4,65,46,772	7,08,89,491	4,13,40,519	53,53,977	24,45,060	29,08,917	8'05
1894-1895	7,64,93,573	4,94,29,432	7,42,04,493	2,47,75,651	69,65,551	26,60,549	43,05,002	4'88
1895-1896	8,02,57,057	5,24,41,585	7,87,76,591	2,03,95,620	70,08,254	28,40,474	41,67,780	5'31
1896-1897	8,41,00,556	5,59,01,216	8,06,34,083	3,10,32,817	1,09,44,448	30,87,005	78,57,443	9'34
1897-1898	8,70,19,666	5,89,92,103	9,66,36,223	3,07,44,093	1,21,89,419	31,86,227	60,02,192	10'85
1898-1899	9,02,16,631	6,22,82,641	10,44,91,814	4,22,09,178	1,34,07,093	35,61,505	68,55,588	9'23
1899-1900	9,03,47,216	6,57,40,457	11,37,77,761	4,80,39,274	1,84,14,961	41,28,714	72,86,944	10'21
1900-1901	9,23,76,977	6,92,70,850	12,40,93,246	5,49,21,857	1,40,16,130	49,01,661	1,09,14,485	11'20
1901-1902*	8,04,41,633	6,93,30,652	13,15,08,916	6,16,78,381	1,43,36,193	43,26,919	1,00,09,279	11'52
1902-1903	10,31,61,099	7,53,36,849	14,46,26,777	6,01,59,923	1,86,14,591	48,22,673	1,17,91,921	11'39
1903-1904	10,69,07,947	8,03,36,374	15,82,78,896	7,79,42,625	1,86,78,691	67,18,971	1,28,60,020	12'02
1904-1905	10,87,98,340	8,44,66,907	17,16,51,245	8,71,04,383	1,96,10,893	62,38,247	1,33,72,346	12'29
1905-1906	11,01,51,710	8,86,86,692	18,87,47,793	9,51,11,106	1,97,86,598	66,90,266	1,17,46,803	10'66
1906-1907	11,11,16,660	9,23,04,047	19,79,51,511	10,66,47,764	2,21,75,797	69,78,897	1,51,97,700	13'68
1907-1908	11,23,53,171	9,69,91,870	21,10,52,103	11,50,70,283	2,02,78,690	71,79,407	1,31,00,282	11'64
1908-1909	11,28,02,325	9,96,57,325	22,48,90,491	12,62,23,079	2,11,00,012	72,71,714	1,38,28,298	12'26
1909-1910	11,33,18,773	10,83,10,741	23,93,61,134	13,60,41,393	2,23,90,978	79,19,246	1,44,80,738	12'78
1910-1911	11,43,81,721	10,70,28,693	25,49,76,785	14,79,47,602	2,34,16,482	78,02,291	1,56,14,651	13'86
1911-1912	11,62,22,814	11,03,11,160	27,37,29,768	16,29,18,690	2,71,10,441	83,56,458	1,87,53,083	16'18
1912-1913	14,62,99,761	11,86,74,357	29,78,41,169	17,91,66,812	3,27,93,830	86,51,920	2,41,11,401	16'49
1913-1914	10,77,57,910	12,63,60,785	32,37,69,670	19,84,18,886	3,47,99,517	68,11,016	2,50,28,601	15'46
1914-1915	17,17,13,716	13,11,09,094	34,00,07,666	21,79,01,592	3,46,62,415	93,24,419	2,52,37,096	14'70
1915-1916	21,69,61,484	14,40,61,281	37,26,35,954	22,80,04,073	3,45,59,804	1,00,81,516	2,36,58,288	10'90
1916-1917	22,06,16,193	15,10,65,128	40,13,37,305	25,02,62,267	3,96,81,912	1,60,70,471	2,86,61,441	12'99

* Excludes the figures relating to the Swat River Canal, which now belongs to the North-West Frontier Province. The figures up to 1900-1901 include the figures of that canal.
The gross revenue in column 6 is that actually collected during the year and differs from the revenue as assessed on the area irrigated in the year.

PUNJAB CANALS, MAJOR WORKS.

Yr. or 1	Capital outlay, Direct and Indirect, to end of year.	Interest charges to end of year.	Net revenue to end of year.	Accumulated profits to end of year (column 4— column 3).	FOR THE YEAR.			
					Gross revenue.	Working expense.	Net revenue.	Percentage on capital.
					Rs.	Rs.	Rs.	Rs.
1887-1888	5,78,26,823	8,18,40,764	5,09,85,681	1,80,88,697	40,06,023	17,01,248	23,04,875	5.99
1888-1889	6,80,48,409	8,40,74,453	5,33,37,028	1,02,53,180	43,64,004	19,72,887	23,92,007	4.08
1889-1890	6,00,98,478	8,38,40,808	5,61,80,320	1,98,80,512	49,05,797	21,14,115	28,52,882	4.74
1890-1891	6,24,71,561	8,86,93,767	5,93,37,074	2,11,43,307	58,80,440	21,75,580	30,50,754	5.35
1891-1892	6,70,01,026	4,11,74,523	0,86,20,120	2,24,51,093	50,40,090	22,51,038	37,59,052	5.95
1892-1893	6,97,92,824	4,37,98,007	0,78,83,641	2,42,84,547	68,08,140	24,51,081	43,57,518	6.24
1893-1894	7,34,89,870	4,05,48,772	7,08,89,481	4,43,40,719	53,50,977	24,45,050	29,05,847	5.95
1894-1895	7,84,95,573	4,04,20,432	7,43,04,493	2,47,75,091	59,05,551	20,50,540	38,55,002	4.83
1895-1896	8,02,57,097	5,24,41,565	7,87,70,591	2,63,35,020	70,08,251	28,40,474	42,57,780	5.31
1896-1897	8,41,00,265	5,50,01,210	8,86,34,083	3,10,32,817	1,09,44,443	30,37,005	78,57,443	9.34
1897-1898	8,70,10,865	5,85,93,103	9,50,80,225	3,07,44,053	1,21,38,410	31,86,227	90,02,192	10.85
1898-1899	8,04,16,531	6,22,52,041	10,44,91,814	4,22,00,178	1,24,07,093	35,51,505	89,55,588	9.93
1899-1900	9,09,47,210	6,57,40,487	11,37,77,751	4,80,28,274	1,84,14,801	41,28,714	82,85,914	10.21
1900-1901	9,23,75,077	9,92,70,850	12,40,93,240	5,48,21,837	1,40,10,130	43,01,651	1,09,14,485	11.20
1901-1902*	8,04,41,638	9,93,30,552	13,15,08,018	9,15,78,804	1,10,35,193	43,26,910	1,08,03,279	11.52
1902-1903	10,31,91,088	7,53,30,810	14,45,26,777	6,91,89,028	1,06,14,594	48,22,673	1,17,91,021	11.39
1903-1904	10,60,07,047	8,08,36,874	15,32,78,890	7,79,42,525	1,85,78,691	57,13,071	1,28,55,020	12.02
1904-1905	10,57,83,310	8,44,50,997	17,16,51,246	8,71,94,883	1,95,10,598	62,33,247	1,33,72,345	12.29
1905-1906	11,01,51,710	8,56,06,802	19,37,47,768	9,51,11,100	1,83,30,508	95,90,355	1,17,40,802	10.55
1906-1907	11,11,10,550	9,23,04,047	19,79,51,511	10,50,47,764	2,21,75,707	69,78,807	1,51,97,700	13.08
1907-1908	11,28,83,171	9,59,41,870	21,10,52,103	11,50,70,288	2,02,79,690	71,79,407	1,31,00,292	11.64
1908-1909	11,28,02,325	9,90,57,325	22,48,80,401	12,52,23,070	2,11,00,012	72,71,714	1,38,28,299	12.20
1909-1910	11,38,18,773	10,38,10,741	23,93,01,131	13,60,41,393	2,28,99,978	79,19,245	1,44,80,738	12.78
1910-1911	11,43,81,721	10,70,28,093	25,40,76,785	14,79,47,592	2,31,10,492	78,02,291	1,50,14,051	13.86
1911-1912	11,62,22,814	11,09,11,109	27,37,29,768	16,29,18,590	2,71,10,441	83,56,458	1,87,53,983	18.18
1912-1913	14,62,99,781	11,86,74,357	29,78,41,109	17,01,00,812	3,27,93,830	80,81,020	2,41,11,401	18.48
1913-1914	10,77,87,010	12,53,50,785	32,37,00,070	10,84,18,885	8,47,39,517	68,11,010	2,59,28,501	15.45
1914-1915	17,17,13,716	13,11,06,094	34,90,07,095	21,79,01,592	3,45,62,415	93,24,449	2,52,37,995	14.70
1915-1916	21,69,51,484	14,40,01,331	37,20,05,954	23,80,04,073	3,45,59,804	1,69,81,516	2,36,53,298	10.90
1916-1917	22,09,10,193	15,10,05,128	40,13,27,395	25,02,62,267	3,98,31,912	1,69,70,471	2,80,01,441	12.99

* Excludes the figures relating to the Beas River Canal, which now belongs to the North-West Frontier Province. The figures up to 1909-1901 include the figures of that canal.

The gross revenue in column 6 is that actually collected during the year and differs from the revenue as assessed on the men irrigated in the year.

GOVERNMENT OF THE PUNJAB.
PUBLIC WORKS DEPARTMENT.

Irrigation Branch.

No. 1264-R. I.

The 20th December 1917.

Resolution by His Honour the Lieutenant-Governor of the Punjab and its Dependencies.

READ —

Administration Report by the Chief Engineer, Irrigation Works, Punjab, of the Canals in the Punjab for the year 1916-17.

Capital Outlay.

DURING the year under report the expenditure (direct and indirect) on canals in operation classed as Productive or Major Irrigation Works, was Rs. 36,80,096 (Imperial Rs. 36,64,709 and Contribution Rs. 15,387), bringing the total outlay to date to Rs. 23,60,93,960, including Rs. 1,54,77,767 contributed by Native States.

Of the Imperial expenditure during the year the sum of Rs. 31,21,690 was expended on the construction and completion of the Triple Canal system. On the other canals the expenditure was, for reasons of financial stringency, kept very low with the exception of the Lower Chenab Canal, the total expenditure on which was Rs. 5,58,238. This was spent chiefly on the much-needed work of raising the Khanki Weir, to improve control of the river Chenab, and on the Palkhu Spur for the same purpose.

The Upper Bari Doab Canal and the Lower Jhelum Canal showed a credit balance, due to suspense transactions (stock issues to works) and receipts on Capital account, which exceeded the actual expenditure on these canals by Rs. 1,55,923 and Rs. 32,594, respectively.

On canals not classed as Productive, or Minor Works for which Capital and Revenue accounts are kept, there was no expenditure during the year. The up-to-date expenditure on these canals was, therefore, the same as in the previous year, *vis.*, Rs. 8,77,485, including Rs. 2,85,442 contributed by the Bikaner State.

Nature of Seasons.

3. *Kharif 1916.*—The monsoon of 1915 was exceptionally short, and the winter rains of 1915-16 failed almost completely, the drought continuing till June 1916. The result was very low rivers, short supplies in all the canals, and late opening of the Inundation Canals. Early in June the rains broke, and in July and August the rainfall was widespread and plentiful. There was a short break in September, and the monsoon of 1916 ended early in October. A marked feature of the season was that the rainfall was good—in parts excessive—in the Punjab plains, but very moderate in the Himalayas. There was some local damage to crops, due to excessive rainfall. The rivers were remarkably free from high floods, and the higher lands on the Inundation Canals suffered from lack of inundation. The shortage of supplies at sowing time caused a serious contraction in the area under cotton, while the scarcity of fodder led to a great increase in fodder crops. The outturn of food crops except rice was poor owing to excessive late rains in October, but sugar-cane and cotton, on the whole, did well.

Rabi 1916-17.—The excellent monsoon rainfall of 1916, and the heavy rains in the beginning of October, were most favourable for the sowing of the *Rabi*. Unfortunately, however, the winter rains again failed, the season became abnormally dry, and the 'rivers' fell so low that the Jhelum, the Chenab and the Ravi rivers had the lowest supplies on record. The low rivers were probably a direct consequence of the light monsoon in the mid-Himalayas and the subsequent poor snowfall.

The demand for water was very keen, and though it could not be fully met, the small supplies available were distributed to the best effect and the canals again saved the province from very severe scarcity. The general effect on the wheat crop of deficient rain and restricted canal supplies was that, though the outturn of grain was nearly normal, the outturn of 'bhusa' was short.

The grain was of excellent quality, but was much damaged by the untimely rain and hail which fell in April and May, when the grain was ripening or being harvested, necessitating the grant of special remissions under Rule 20 (III) of the Rules under the Canal Act, VIII of 1878.

Area irrigated, etc.

4. The areas irrigated and matured by works of all kinds compare as follows with the corresponding figures for the two previous triennia and for the year 1915-16 :—

Particulars.	AVERAGE OF THE 3 YEARS ENDING		During 1915-16.	During 1916-17.
	1912-13.	1915-16.		
	Acres.	Acres.	Acres.	Acres.
<i>Imperial and Provincial.</i>				
Area irrigated	7,510,770	8,146,997	8,237,886	8,954,131
Area matured	6,932,371	7,779,310	7,805,703	8,351,660
<i>Native States.</i>				
Area irrigated	518,950	578,775	646,925	625,693
Area matured	512,958	572,716	613,234	621,761

Under Imperial and Provincial the area irrigated and area matured exceeded by 716,245 acres and 548,957 acres, respectively, the figures of 1915-16; and by 807,134 acres and 574,820 acres, the average figures of the previous triennium. The increase was due mainly to the expansion of irrigation on the Triple Canal system, and to the very good monsoon rainfall which helped also in increasing the area under irrigation on other canals. Of the Triple Canals the Upper Chenab increased its irrigation from 325,000 acres to 437,000 acres, the Lower Bari Doab Canal from 288,000 to 515,000 acres. These figures indicate very satisfactory progress, but the Upper Jhelum which ran for the first time irrigated only 118,000 acres.

Excluding the Triple Canal system, the total increase on all other canals was 254,683 acres and 271,602 acres, respectively, over the figures of the areas irrigated and matured in the previous year: a very satisfactory result in a year during the greater part of which the supplies were unusually short. The success that attended the operations of the Inundation Canals except the Indus system is a matter of special congratulation.

The reason for the shortage on the Triplo Canal system, as a whole, viz., 1,070,018 acres against a forecast of 1,513,367 acres, was that the Upper

Jhelum Canal, on which the working of the Upper Chenab Canal and the Lower Bari Doab Canal is dependent, was opened a year late, and was not able, owing to the newness of its banks, to carry the supply required. The supply in this new canal (Upper Jhelum Canal) is being raised steadily and cautiously, and it is hoped that the forecast will be realized within a few years. The Lower Jhelum and Lower Chenab reports show separately areas irrigated in old and new villages, and the Lieutenant-Governor considers that similar information should be given for all the canals irrigating newly colonised areas.

5. The area on which irrigation charges were remitted was 608,413 acres against 435,824 acres in the previous year. But from these figures must be deducted 175,718 acres and 40,987 acres, respectively, granted remissions under Tenancy rules mostly on the Lower Bari Doab Canal, not for failure of crops, but as part of the terms of colonization. Thus the area of crops that failed amounted to only 428,910 acres, as compared with 395,526 acres in the previous year. *The proportion of the area that failed to the area irrigated was about the same in both years, viz., 4.5 per cent.* About fifty per cent. of the failure was due to flooding by rain, short supplies in the rivers and hail. Other kinds of remissions were normal.

Considering the unusually low supplies in the river and the failure of the winter rains the results have been much better than might have been anticipated.

Financial results.

6. The financial results of the year under review are based on the revenue assessed and collected on the areas irrigated in Rabi 1915-16 and Kharif 1916. The gross receipts from works of all kinds compare as follows with the figures for the year 1915-16 and the two previous triennial periods ending 1912-13 and 1915-16:—

Particulars.	AVERAGE OF THE THREE YEARS ENDING		During 1915-16.	During 1916-17.
	1912-13.	1915-16.		
	Rs.	Rs.	Rs.	Rs.
<i>Imperial and Provincial.</i>				
Major Works	2,77,73,571	3,46,30,559	8,45,89,804	8,90,31,912
Minor Works	17,11,218	19,10,180	18,86,557	20,09,978
Total	2,95,14,789	3,05,40,769	8,04,76,361	4,10,41,890
<i>Native States.</i>				
Major Works	20,85,791	24,47,259	31,88,303	27,96,094
Minor Works	23	2	1	...
Total	20,85,814	24,47,261	31,88,304	27,96,094

The gross receipts under Imperial and Provincial are the highest on record, being about 50 lakhs better than the highest previous record. Both the Major and Minor Works contribute to these excellent results. The amount

collected on the Triple Canal system was Rs. 36,12,074, including Rs. 4,57,796 on account of indirect receipts representing chiefly the interest at 4 per cent. on the sale-proceeds of the Government waste lands on the Upper Chenab and Lower Bari Doab Canals and including only a small amount for land revenue and malikana. The question of indirect credit on these new canals is under consideration. With reference to the remarks in paragraph 7 of the report on the Ghaggar Canals, which are still shown as worked at a loss, the Lieutenant-Governor would be glad if the Chief Engineer should examine the system of credits with the Financial Commissioner.

The working expenses for the year are compared below with the similar figures of the annual averages of the two previous trienna and of the year 1915-16 :—

Particulars.	AVERAGE OF THE TRIENNIUM ENDING		During 1915-16	During 1916-17.
	1912-13.	1915-16.		
IMPERIAL AND PROVINCIAL.				
	Rs.	Rs.	Rs.	Rs.
Major Works	82,60,228	96,88,991	1,09,31,516	1,09,70,471
Minor Works	10,08,281	9,68,083	9,47,959	8,74,535
Total	92,68,510	1,06,47,077	1,18,79,475	1,18,45,006
NATIVE STATES.				
	Rs.	Rs.	Rs.	Rs.
Major Works	8,16,828	8,93,867	9,21,201	10,46,700
Minor Works	3,980	7,564	4,761	8,130
Total	8,20,814	9,01,231	9,25,965	10,54,830

Excluding the three recently constructed canals of the Triple Project, which needed a larger amount for up-keep, the expenditure on Major Works was about normal ; and was incurred chiefly on repairing the damage caused to canal banks by the heavy monsoon, and on the ordinary maintenance and silt clearance.

The expenditure on Minor Works is met out of the ordinary revenue and was restricted to a minimum in accordance with the orders in force regarding retrenchment.

The net revenue for the year compares as follows with that of the previous periods :—

Particulars.	AVERAGE OF THE TRIENNIUM ENDING		During 1916-16.	During 1917-18.
	1912-13.	1915-16.		
IMPERIAL AND PROVINCIAL.				
	Rs.	Rs.	Rs.	Rs.
Major Works	1,91,93,345	2,49,41,595	2,36,58,288	2,86,01,441
Percentage on Capital	13 32	11 50	10 90	12 90
Minor Works	7,31,931	9,51,497	9,38,598	11,35,393
Total	2,02,28,270	2,68,93,092	2,45,96,886	2,97,96,834
NATIVE STATES.				
	Rs.	Rs.	Rs.	Rs.
Major Works	12,18,962	15,53,792	15,64,103	17,49,391
Percentage on Capital	7 97	10 05	10 12	11 30
Minor Works	—3,963	—7,602	—4,763	—8,130
Total	12,14,999	15,46,090	15,59,339	17,41,261

On the Major Irrigation Works the net revenue earned showed an increase of about Rs. 50 lakhs over the figures of the previous year. Of this Rs. 17.57 lakhs were contributed by the new canals of the Triple Project, which showed a deficit in the previous year. The increase on the other canals was attributable to the favourable monsoon rainfall in the *kharif* crop of the year under report. The *rabi* crop of the year 1915-16, the demand for which was collected during the year, also yielded good financial results as the abnormal drought created an unusually keen demand for the moderate supplies available.

The interest charges for the year amounted to Rs. 70 03,847 and the net profit, after defraying interest charges, was Rs. 2,16,57,591 or 9.82 per cent. on the Capital outlay to date. In the previous year the corresponding figures were Rs. 1,64,21,265 and 7.56 respectively.

The Minor Works have also done well and show an increase of nearly 2 lakhs over the figures of the previous year.

The percentage of net revenue on Capital outlay on the principal canals was as follows:—

Canal.	Excluding interest charges.	Including interest charges.
Western Jumna	10 15	7 00
Sirhind (Imperial)	11 68	8 49
Upper Bari Doab	17 35	14 17
Lower Bari Doab	1 55	—1 62
Upper Chenab	4 88	1 71
Lower Chenab	43 6	40 42
Upper Jhelum	—1 27	—4 45
Lower Jhelum	23 56	20 35
Upper Sutlej Inundation Canals	9 19	6 08
Sidhnai	32 25	28 08
Indus Inundation Canals	4 35	1 14

With the exception of the Upper Jhelum Canal, Upper Sutlej Inundation Canals and Sidhnai Canals, all the other Major Irrigation Works as detailed above showed improvement over the figures of the previous year.

The collections on the Upper Jhelum Canal were for *kharif* only, there was no *rabi* crop in 1915-16. The tabular statement above is unfair to the Upper Jhelum Canal, as most of its Capital Expenditure is for the benefit of the Upper Chenab Canal and Lower Bari Doab Canal, and not for local irrigation. For proper comparison with the older canals the three canals should be taken together. For the Triple Canal system as a whole, the net revenue percentages are 1.49 excluding interest charges, and — 1.58 including interest charges. As regards the financial results it has to be borne in mind that no less than one-third of the total income, or 130 lakhs, is made up of indirect receipts on account of land revenue due to the canal, water advantage or owner's rate, proceeds of sales of Government lands in the Colonies. These receipts explain the extraordinarily high profits on the Lower Chenab, Lower Jhelum and Sidhnai Canals on which most of the land irrigated belonged to Government. They also swell the profits for the Punjab Canals, as a whole, which, if indirect receipts were excluded, would amount to only 4 per cent. on the Capital outlay.

General Remarks.

7. This was the first complete year of irrigation from the Upper Jhelum Canal which was opened for irrigation in December 1915. Thus all three canals of the Triple Project were in operation during the year. As the river supplies were unusually low, the question of an equitable distribution of the supply of the three Rivers—Chenab, Jhelum and Ravi—amongst the five canals dependent thereon (Upper and Lower Jhelum, Upper and Lower Chenab and the Lower Bari Doab) had to be considered. A programme of rotational canal turns was arranged by the Chief Engineer, after consultation with the Superintending Engineers of these canals; and the distribution effected thereby proved, on the whole, fair. Experience has indicated the need for certain modifications which are being tried. Certain difficulties in adjusting the conflicting claims of the five canals are inevitable in seasons of short supply, and the Lieutenant-Governor will be glad if in future reports some reference is made to any difficulties which may arise, and the manner in which they have been solved. Our important consideration is to give as timely notice as possible to the officers controlling each system and through them to the irrigators of any reductions in the supply or of contemplated rotational working.

8. Another feature of the year was that the construction estimate of the Triple Project was closed on the 31st March 1917 with an expenditure of Rs. 10,10,66,394 against the estimated amount of Rs. 10,36,81,985, showing a saving of Rs. 26,15,591.

9. The length of channels in operation at the end of March 1917 was 19,267, viz. 4,390 miles of main and branch canals and 14,868 miles of distributaries. Sixty-seven miles of canal and branches and 394 miles of distributaries were opened for the first time for irrigation during the year.

10. The estimated value of crops raised on all canals for the year under review is Rs. 32,09,18,736 as compared with Rs. 27,50,82,336 for the previous year. These figures represent averages of Rs. 35.75 and Rs. 32.4, respectively, per acre matured. The calculations are based on the outturn and prices given in the seasons and crops report for the year 1916-17, and the Lieutenant-Governor believes the estimates to be studiously moderate.

11. The growing importance of irrigation to the people and to Government and the steadily increased profits it secures to both are the strongest arguments for extending the irrigation system wherever conditions are favourable, and several promising projects are now under the consideration of Government:—

- (1) The project estimate for the construction of a barrage across the River Jhelum, at its exit from the Woolar Lake, which was prepared by Mr. R. E. Purves, C.I.E., late Chief Engineer, Irrigation Works, Punjab, in the summer of 1915, and which was noticed in the review for the previous year, is now being further considered in connection with its financial details. The object of this scheme is to store water in the Woolar Lake during the monsoon period for use in the Punjab canals during the rabi season. The Lieutenant-Governor has recently had an opportunity of discussing the project on the spot with Mr. Woods and the Kashmir Darbar and their officials and he trusts it is now on a fair way towards realization.
- (2) In accordance with the orders received from the Government of India in 1915-16, the project estimate in connection with the utilization of the surplus waters of the Sutlej River below its confluence with the Beas, was modified.

This project is intended—

- (i) to maintain the supply of water to the area now served by existing Inundation Canals, and
- (ii) to utilize the balance in the British and Native States territories to the best advantage.

The project is estimated to cost Rs. 9,90,44,075 with an annual income in the 10th year after completion, of Rs. 97,39,365 being a net return of 9.8 per cent. on the cost

- (3) Another very promising scheme now being worked up involves the construction of a dam at Bhakra on the Sutlej River about 40 miles above the site of the head works of the Sirhind Canal to head up to a depth of 360 feet above river bed. It is estimated that this dam will impound about two-and-a-half million foot acres during the summer.
- (4) In connection with the Haveli Project noticed in the last year's review more information, in detail, is being collected regarding available cold weather supplies and the effect at Haveli of a dry river below the Rasul Weir. The project is estimated to cost about 165½ lakhs of rupees and to bring in a return of about 6 per cent. on the capital cost.
- (5) Another important scheme which is being elaborated is the Sindh Sagar Project. Preliminary surveys for which were started in November 1915. This project is intended to irrigate about 2 million acres of land in the Sindh Sagar Doab, from a canal taking out on the left bank of the Indus near Mari and opposite Kalabagh. The scheme was partly investigated in 1912, but was put aside as more promising projects were then considered possible. About 30 per cent. of this country lying in the centre of the Doab is covered with sand hills. Both the Lieutenant-Governor and the Financial Commissioner (Mr. Pagan) toured over the Doab in different directions last spring and the conclusion provisionally arrived at is that excluding the very sandy portion of the Central Doab south of the Jhang-Bhakkar Road, there is an ample area of good land, much of it Government waste, to justify the construction of the canal. Accordingly, a rectangular survey by the Survey Department has been put in hand as a basis for a detailed soil survey to be undertaken later by the Revenue Staff. A large amount of survey work has been carried out by the Irrigation Department and information collected by the Revenue Department at various times during the last 44 years and this can be utilized in working up the rough project.

12. The Lieutenant-Governor is very pleased to see that the question of the risk of water-logging due to seepage from canals on the necessity of which he has so often insisted, is not being overlooked. The Hafizabad tract has been much improved by surface drainage, and it is particularly satisfactory to learn that the abnormal monsoon rains of 1916-17, have not arrested the improvement. Certain reaches of the Main Line and Jhang Branch of the Lower Chenab Canal, were lined with water-proof material, but it is difficult to draw definite conclusions as to the value of the work done, in the absence of precise means of measuring its effect. On the Upper Chenab Canal the local drainages have been surveyed, and proposals for improving them to prevent water-logging are under consideration. Around Amritsar tube-walls

are increasing in number and the operating area of the Hydro-Electric pumping scheme is gradually extending, and its effect on this water-logged tract should soon be noticeable.

13. Paragraph 5 of the report gives details of the punishments, Judicial and Departmental, inflicted for misconduct and inefficiency. There is no Department of Government which is brought into closer relations with the people than the Irrigation Branch and on the honest and efficient discharge of their duties by the great body of officials whom the Department controls, the credit of the administration very largely depends. The responsibility of the Superior Officers of the Department for checking abuses, preventing partiality or exactions on the part of the subordinate establishment is a very heavy one, and the Lieutenant-Governor is glad to observe that this all-important matter is now receiving the attention it merits.

14. The posts of Chief Engineers were held during the year under review by—

			<i>From</i>		<i>To</i>
Mr. W. F. Holms	...	...	1-4-1916	...	31-3-1917.
Mr. T. R. J. Ward	...	...	1-4-1916	...	30-12-1916.
Mr. F. W. Woods	...	...	31-12-1916	...	31-3-1917.

The Lieutenant-Governor recorded his appreciation of Mr. Ward's services in his review of the report for the previous year. He desires to thank Messrs. Holms and Woods for their efficient administration and the officers of the Department—which has been seriously depleted by the number of officers who have volunteered for Military service or Engineering and other work in connection with the War—for their admirable devotion to duty in a year of great strain and the splendid results they have achieved for the Government and the people of the Province.

By order of His Honour the Lieutenant-Governor,

W. F. HOLMS,

Secretary to Government, Punjab.

ADMINISTRATION REPORT

OF THE

CANALS IN THE PUNJAB

FOR THE YEAR

1916-17.

GENERAL.

1. The direct receipts and expenditure of the Irrigation Department during the year were as follows :—

CLASS OF WORKS.		Direct Receipts.	DIRECT EXPENDITURE.		
			Capital.	Working expenses.	Total.
		Rs.	Rs.	Rs.	Rs.
Major Irrigation Works.	Imperial	2,77,00,618	34,55,730	1,03,37,740	1,27,93,470
	Contributions	73,562	15,284	5,44,543	5,59,827
Minor Irrigation Works.	Imperial	9,57,305	...	7,81,860	7,81,860
	Contributions	...	...	3,105	3,105
Provincial Canals	...	32,492	...	47,085	47,085
GRAND TOTAL		2,87,04,477	34,71,014	1,17,14,333	1,51,85,317
Average of the three years ending 1915-16.		2,52,97,116	74,35,028	1,05,35,900	1,79,70,928

*Excludes "refunds of revenue."

2. The indirect revenue credited to the canals on account of Enhanced Land Revenue, etc., amounted to Rs. 1,29,51,275. The average credit on this account of the three previous years amounts to Rs. 1,13,14,514.

3. The following table shows the areas irrigated by the several canals in 1916-17 as compared with the averages of the previous triennium :—

Names of canals.					Average of the three years ending 1915-16.	1916-17.
Major Irrigation Works.					Acres.	Acres.
Western Jamna Canal	...	{ Imperial ...	...	...	759,138	748,768
		{ Patiala State	...	...	67,550	79,694
Sirhind Canal...	...	{ Imperial ...	...	...	879,390	891,781
		{ Patiala, Nabha and Jind States	...	...	503,202	533,959
Upper Bari Doab Canal	...	...	...	...	1,153,453	1,201,297
Lower Bari Doab Canal	...	...	...	...	182,025	514,936
Upper Chenab Canal	...	...	...	...	233,685	437,477
Lower Chenab Canal	...	...	...	...	2,280,630	2,286,729
Upper Jhelum Canal	...	...	...	...	...	117,605
Lower Jhelum Canal	...	...	...	...	826,399	804,761
Upper Sutlej Canals...	...	...	...	...	338,238	313,151
Sidhnai Canal	...	...	...	...	255,505	298,556
Indus Canals	...	...	...	...	235,079	265,168
Total Major Irrigation Works.		{ Imperial	...	...	7,168,542	7,880,214
		{ Native States	...	...	570,752	618,653
Minor Irrigation Works.						
Shahpur Inundation Canals	...	{ Imperial	...	...	38,750	46,769
		{ Provincial	...	...	26,768	31,404
Ghaggar Inundation Canals	...	{ Imperial	...	...	19,707	28,327
		{ Bikaner State...	...	...	6,023	12,040
Lower Sutlej Inundation Canals (including Hajiwah Canal)					...	313,586
Chenab Inundation Canals					...	195,606
Murraffargarh Inundation Canals					...	377,259
Ravi Inundation Canals (Provincial)					...	6,779
Total Minor Irrigation Works.		{ Imperial	...	...	944,908	1,042,513
		{ Provincial	...	...	33,547	31,404
		{ Native States	...	...	6,023	12,040
Total Major and Minor Irrigation Works.		{ Imperial	...	...	8,113,450	8,922,727
		{ Provincial	...	...	33,547	31,404
		{ Native States	...	...	576,775	625,693
GRAND TOTAL					...	8,723,772
						9,579,824

Financial Results.

4. The canals in the Punjab show the following results for 1916-17 :—

I.—CANALS IN OPERATION CLASSED AS PRODUCTIVE.

Major Works.

			Rs.
Capital expenditure during the year.	Direct charges ...	...	34,55,730
	Indirect charges ...	...	2,08,979
	Total	...	36,64,709
The capital invested to end of 1916-17 amounted to		...	22,06,16,193
Income from all sources less refunds (Rs. 7,024) ...		...	3,96,31,912
Working expenses less refunds (Rs. 7,024) ...		...	1,09,70,471
Balance excess revenue being 12.99 per cent. on Rs. 22,06,16,193			2,86,61,441
Interest—			
		Rs.	
Total Direct outlay to 31st March 1917	...	21,41,97,441	
Less half outlay during 1916-17	...	17,27,865	
Mean Capital at charge	...	21,24,69,576	
Interest on Rs. 21,24,69,576 at 3.2964 per cent.	...	70,03,847	
Net profit after paying interest in 1916-17	...	2,16,57,594	
Ditto ditto 1915-16	...	1,64,21,265	
Ditto ditto 1914-15	...	1,94,82,697	

The earnings of the "9—Major Works" are shown in line 24 of the statement at pages 4 and 5.

II.—IMPERIAL CANALS, MINOR WORKS NOT CLASSED AS PRODUCTIVE.

No capital outlay was incurred during the year on those canals for which Capital and Revenue Accounts are kept, *viz.*, Shahpur Imperial and Ghaggar Canals. The total expenditure on such canals to end of year 1915-16 was, therefore, Rs. 5,92,013, the same as in the previous year.

			Rs.
The income from all sources less refunds (Rs. 480) amounted to ...		...	19,61,291
Working expenses less refunds (Rs. 480) ...		...	8,24,572
Balance profit in 1916-17	...	...	11,36,719
Ditto 1915-16	...	...	9,44,305
Ditto 1914-15	...	...	9,47,214

The financial results of each Minor Work are shown in the body of the report.

III.—PROVINCIAL CANALS.

There are only two Provincial Canals in operation, *viz.*, the Shahpur Provincial Canals and the Ravi Inundation Canals.

			Rs.
The income from all sources less refunds (<i>nil</i>) amounted to ...		...	48,687
Working expenses less refunds (<i>nil</i>) ...		...	50,013
Balance profit in 1916-17	...	...	—1,326
Ditto 1915-16	...	...	—5,707
Ditto 1914-15	...	...	26,215

5. The total number of dismissals and punishments was 110. Of these 38 were dismissed after departmental enquiry, 5 after judicial enquiry, 7 for serious misconduct, 6 for inefficiency and one for absence without leave. Of the other forms of punishment penal transfers accounted for 24, non-recommendation in rolls 11 and reduction in rank or pay 8. This total does not include disciplinary punishments.

Dismissals and Punishments.

CANALS IN OPERATION CLASSED AS PRODUCTIVE

PARTICULARS	Serial No.	CANALS IN OPERATION CLASSED AS PRODUCTIVE					
		Western Jumna Canal (including Sera Branch).	Sichind Canal (Imperial).	Upper Bari Doab Canal.	Lower Bari Doab Canal.	Upper Chenab Canal.	Lower Chenab Canal.
1	2	3	4	5	6	7	8
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
I.—Capital (direct and indirect) outlay to end of							
{ 1915-16 ...	1	1,76,92,595	2,55,56,553	2,18,72,497	2,10,81,992	8,46,01,593	3,17,56,780
{ 1916-17 ...	2	1,76,93,755	2,55,92,813	2,18,97,858	2,18,74,288	8,53,42,184	3,23,65,018
II.—Income realized during the year—							
Direct, viz., water rent and miscellaneous receipts.							
{ 1915-16 ...	3	27,75,361	31,37,789	41,02,676	4,32,311	9,66,256	84,47,760
{ 1916-17 ...	4	29,43,410	42,20,895	45,39,059	7,61,960	23,08,678	87,62,076
Indirect, viz., land revenue due to Irrigation Works, including water-advantage rate.							
{ 1915-16 ...	5	2,30,990	89,551	5,16,293	1,20,086	61,077	74,71,480
{ 1916-17 ...	6	2,08,310	1,42,791	6,63,875	2,02,921	2,51,872	60,66,027
Total Direct and Indirect							
{ 1915-16 ...	7	80,66,351	32,27,340	47,18,969	5,63,497	10,17,333	1,59,22,240
{ 1916-17 ...	8	31,51,750	43,63,676	52,08,884	9,64,893	25,69,550	1,68,80,103
III.—Charges (direct and indirect) for the year—							
Maintenance, including Establishment.							
{ 1915-16 ...	9	14,05,414	12,38,876	13,72,665	6,50,996	8,33,609	32,71,933
{ 1916-17 ...	10	12,53,021	13,87,160	14,19,126	6,26,356	8,39,284	27,19,753
Interest on Capital outlay							
{ 1915-16 ...	11	5,85,685	8,44,273	7,27,665	7,02,171	11,49,972	10,76,007
{ 1916-17 ...	12	5,66,629	8,03,114	6,96,019	6,69,632	11,20,619	10,31,663
Total							
{ 1915-16 ...	13	19,91,400	20,63,191	21,00,420	13,63,168	19,89,693	13,45,000
{ 1916-17 ...	14	19,12,550	21,90,264	21,15,176	13,20,038	19,68,812	27,51,751
V.—Profit and Loss—							
(a) Including Interest on Capital outlay.							
Amount							
{ 1915-16 ...	15	19,14,951	11,44,269	2,78,549	-7,99,669	-9,63,341	1,15,74,210
{ 1916-17 ...	16	12,39,290	21,73,412	30,98,680	-3,55,145	6,01,738	1,39,78,362
Percentage on Capital outlay.							
{ 1915-16 ...	17	5.73	4.47	11.97	-3.79	-2.79	36.49
{ 1916-17 ...	18	7.60	8.39	14.17	-1.62	1.71	49.42
(b) Excluding Interest on Capital outlay.							
On Direct income							
Amount							
{ 1915-16 ...	19	18,09,817	18,98,931	27,50,111	-2,18,474	-1,22,419	51,75,767
{ 1916-17 ...	20	16,87,419	22,33,785	31,20,693	1,85,618	14,70,414	60,42,293
Percentage on Capital outlay							
{ 1915-16 ...	21	7.74	7.43	13.48	-1.94	0.35	16.28
{ 1916-17 ...	22	8.58	11.07	14.29	0.02	4.10	18.67
On total income, Direct and Indirect.							
Amount							
{ 1915-16 ...	23	16,00,937	19,86,482	33,46,401	-97,488	1,89,625	1,23,50,247
{ 1916-17 ...	24	17,96,729	29,70,526	37,89,738	3,38,637	17,25,266	1,41,10,320
Percentage on Capital outlay							
{ 1915-16 ...	25	9.61	7.78	16.29	-0.48	0.53	39.78
{ 1916-17 ...	26	10.15	11.68	17.35	1.56	4.88	43.61

MAJOR WORKS.

DIFFERENTIAL CANALS, MINOR
WORKS, NOT CLASSED AS
PRODUCTIVE.

PROVINCIAL CANALS.

Upper Jhelum Canal.	Lower Jhelum Canal.	Upper Fafes (including Lower Sohag and Para).	Sidhmal Canal.	Indus Thundeffah Canals.	Total Productive.	Works for which Capital and Revenue Accounts are kept.	Works for which only Revenue Accounts are kept.	Shahpur Provincial Canals.	Ravi Inundation Canals.	Serial No.
9	10	11	12	13	14	15	16	17	18	19
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
4,27,61,119	1,59,85,762	16,18,591	13,27,061	2,73,305	21,09,11,444	592,013	...	...	...	1
4,38,49,917	1,69,83,169	16,19,640	13,65,497	2,82,551	22,08,16,193	6,92,019	...	...	...	2
6,231	15,49,444	4,79,046	6,23,452	1,85,918	4,07,97,179	91,634	7,53,775	29,902	892	3
83,531	20,73,910	9,92,526	4,69,105	2,74,509	2,77,00,518	1,02,189	8,65,309	82,492	...	4
...	14,72,313	2,67,157	2,02,329	2,50,037	1,07,02,133	15,107	9,45,812	6,457	893	5
...	17,61,783	2,16,962	1,21,311	4,73,709	1,19,01,294	21,672	9,69,114	12,973	3,222	6
6,231	41,91,563	7,70,163	8,23,779	4,57,175	3,15,99,501	1,69,741	17,52,157	36,339	1,270	7
83,631	47,08,529	6,79,791	6,89,769	1,24,713	3,59,31,912	1,37,853	18,21,423	45,455	3,222	8
3,42,150	9,17,119	4,03,709	1,47,711	4,11,331	1,79,21,116	65,920	8,16,723	40,959	2,353	9
6,40,702	9,92,062	4,41,279	1,72,112	2,97,713	1,69,79,471	77,655	7,16,017	47,609	2,101	10
14,11,029	1,61,701	79,479	41,751	67,917	73,37,21	...	...	...	...	11
13,91,259	1,12,921	76,673	42,627	17,519	70,13,447	...	...	...	...	12
14,11,000	11,79,721	4,79,160	1,91,479	6,39,467	1,81,75,279	8,000	8,16,723	40,953	2,353	13
20,72,755	11,79,721	4,03,032	2,01,755	4,91,123	1,79,74,318	77,655	7,16,017	47,619	2,101	14
-17,46,925	37,67,273	2,67,017	7,41,310	-1,72,622	1,71,21,279	...	...	...	...	15
-10,51,421	22,41,719	1,10,763	8,75,114	84,145	2,10,37,531	...	...	...	...	16
-412	17,47	1623	4616	-341	755	...	...	...	...	17
-445	1935	649	2766	144	682	...	...	...	...	18
-3,35,316	18,31,691	69,037	4,76,878	-2,51,530	1,28,61,971	5,791	-7,99,192	-11,651	-2,001	19
-1,67,164	19,19,963	-19,572	2,61,353	-1,43,705	1,07,33,147	21,611	1,01,392	-15,117	-3,401	20
079	1117	231	6581	-376	691	097	...	...	...	21
-127	1210	-267	2942	-482	719	415	...	...	...	22
-3,35,916	23,08,924	3,30,295	6,99,187	-4,439	2,89,54,245	20,811	6,23,401	-4,691	-1,119	23
-5,67,104	37,51,631	1,67,399	4,87,737	1,29,702	2,89,61,441	69,213	10,77,503	-2,141	818	24
079	2970	1650	5175	-916	1090	303	...	...	...	25
-127	2969	910	3225	436	1209	1000	...	...	...	26

Major Irrigation Works.

WESTERN JUMNA CANAL.

(SUPERINTENDING ENGINEER—MR. G. C. LAURIE.)

1. A small expenditure of Rs. 1,220 (Direct and Indirect) was incurred on completing the subordinates' rest-houses at Jaunti and Anta and the rest-house at Anta.

Capital Account.
Kharif 1916.
Rabi 1916-17.

2. The expenditure amounted to Rs. 1,29,520 (Rs. 1,11,182 under "Imperial" and Rs. 18,338 under "Contribution") and was incurred on numerous small works for increasing the efficiency of the canal and in improvements to buildings.

Extensions and Improvements.

3. The expenditure amounted to Rs. 6,17,830 (Rs. 5,92,095 under "Imperial" and Rs. 25,735, under "Contribution"). In addition to this Rs. 19,557 and Rs. 21,676 were spent by the Patiala and Jind States, respectively, on the maintenance of their distributaries. Apart from ordinary repairs and maintenance of channels and buildings, numerous works of improvement were carried out.

Maintenance and Repairs.

The large Badarpur silting reach, 3 miles long and 1,000 feet wide on Main Line, was again successfully worked.

A 3-mile reach of silting tanks was started between Ghogripur and Jani on the Main Branch.

A marginal bund was constructed, about $1\frac{1}{2}$ miles long, on both banks of the Main Canal at its worst reach, to control the supplies and contain them in one channel. Large sums were also spent on clearance of drains recently taken over from the District Boards and on clearance of Dhanaura Escape on the Main Line.

4. (a) Kharif, 1916.—No rain was received in the early part of the season and the river discharge was the lowest on record. There was an enormous demand for filling village tanks and the river supply was quite insufficient to meet the canal indent during April, May and early June. The early arrival of a good monsoon, however, saved the situation which was, otherwise, getting very serious. The cotton crop was lost and dropped from a maximum of 220,330 acres in 1914 to 92,360 acres in 1916. Considerable areas were put down under fodder crops as there had been a fodder famine in the previous cold weather, but the arrival of the early and heavy monsoon enabled most of this to do without irrigation. The Kharif crop, though average on the whole, was nearly a lakh of acres below those obtained in 1913 and 1914.

During the monsoon the river was remarkably free from high floods considering the heavy rainfall.

The highest flood gauge registered was 27.5 feet at Ponta on the 18th June against a maximum recorded flood of 38.5 feet on the 14th August 1903.

(b) Rabi, 1916-17.—There were good rains in September which ensured a large area of rabi sowings. The canal remained in flow for 178 days and was closed for 4 days only in October. The supply was favourable throughout, but there was a keen demand on account of the very large crop and the absence of winter rains. The crop amounted to 480,544 acres, and was the highest on record and was also of good quality.

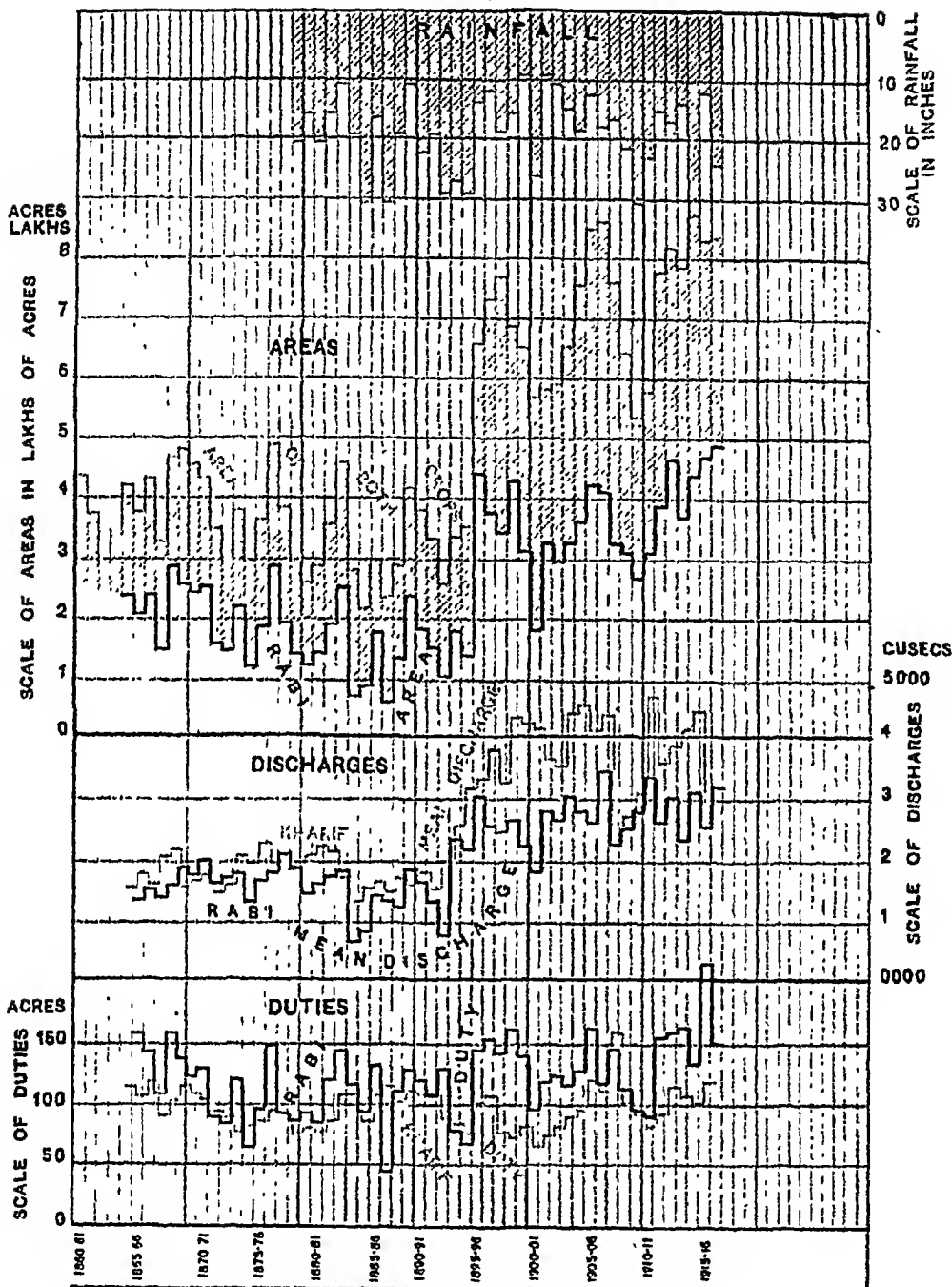
(c) Rainfall.—The following table compares the rainfall during the year with the average of the previous years:—

Station.						1916-17.	Average.
						Inches.	Inches.
Ponta	...	...	...	...	...	69.2	57.3
Tajawala	...	...	...	...	...	61.7	52.9
Indri	...	...	...	...	...	28.7	23.4
Nimak	...	...	...	...	...	26.0	23.0
Delhi	...	...	...	...	...	23.3	20.7
Karnal	...	...	...	...	...	37.3	26.6
Dadupur	...	...	...	...	...	52.3	45.3
Hissar	...	...	...	...	...	27.0	14.1
Rohtak	...	...	...	...	...	21.2	17.7

WESTERN JUMNA CANAL.

WORKING RECORD.

1916-17.

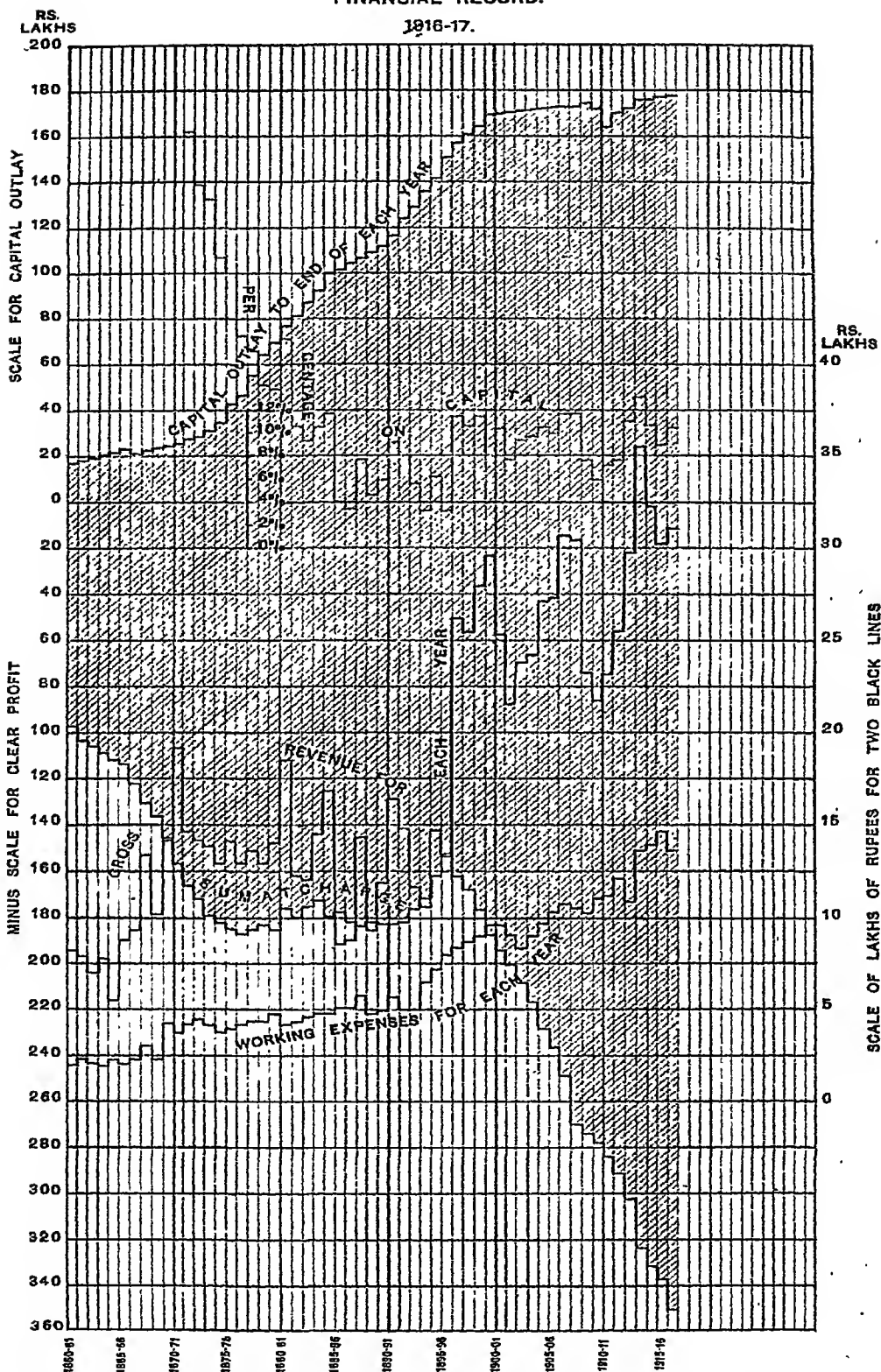


N. B.—The intercepts in the red area show the Kharif acreage each year.
 The areas shown include those done in Patiala State on Sirsa, Branch.
 The discharges are as measured at canal head, and are averages utilized for the whole of each crop.
 The duties are derived from the above areas and discharges.

WESTERN JUMNA CANAL.

FINANCIAL RECORD.

1916-17.



N. B.—This diagram does not include figures for Patiala State on Sirsa Branch; it is "Imperial" only.

The intercepts in the blue area are measures of the accumulated clear profits of the scheme; and if measured on the minus scale the readings are clear profits after reimbursing the whole of the capital expenditure.

This canal was taken over in the early half of the 19th century without the expenditure of any capital; there has therefore never been any arrears of interest, and the sum at charge has never been greater than the capital. In 1900-01, it will be seen that the whole capital had been repaid, and about 104 lakhs in addition as clear gain.

No interest on this clear profit has been allowed for, so that the gain is more than shown.

The intercepts between the black lines show the net revenue each year.

The sudden rise in 1896-97 of gross receipts was due to a famine year, but has been continued since owing to large extensions.

5. The following table gives the irrigation effected during the year: also the averages of the two previous triennia:—

Area irrigated,
Kharif, 1916.
Rabi, 1916-17.

Crop.					AVERAGE FOR THE THREE YEARS ENDING		Area irrigated during 1916-17.
					1912-13.	1915-16.	
					Acres.	Acres.	Acres.
<i>Kharif</i>	...	...	...	...	835,585	404,117	317,913
<i>Rabi</i>	...	...	...	...	392,158	422,571	480,544
Total					727,743	826,688	828,157

The area irrigated shows a most satisfactory improvement when compared with that of previous years, and this is due to recent improvements in channels. The area irrigated during *rabi* was the highest on record and exceeded the previous highest in 1912-13 by about 9,000 acres, a most satisfactory result.

The decrease in the *kharif* was due to the unprecedented low supply in the river during the period for sowing.

6. The receipts amounted to Rs. 73,586 and maintenance charges Rs. 5,357, showing a nominal profit of Rs. 68,229 against Rs. 47,113 in 1915-16 and Rs. 59,244 in 1914-15. The profit was largely due to the demand for sleepers created by the war.

No boats are now plying for hire on this canal, the only navigation being raft traffic and boats for carriage of Government material.

7. *Imperial*.—The gross revenue collected during the year amounted to Rs. 31,51,750, which is less by Rs. 1,01,657 than the average for the triennium ending 1915-16.

Financial results based on collee loss.
Kharif, 1916.

The decrease is due to the poor *kharif* crop of 1916.

The working expenses amounted to Rs. 13,56,021, which is Rs. 24,936 less than the average of the previous triennium.

The net revenue amounted to Rs. 17,95,729 against Rs. 18,72,390, the average of the previous triennium, and Rs. 16,00,937 of the previous year.

Contribution.—The net revenue received by the Patiala State on their channels on the Sirsa Branch amounted to Rs. 1,20,147 or 10.35 per cent. on the capital invested against an average of Rs. 1,52,018 or 13.10 per cent. for the triennium ending 1915-16 and Rs. 1,48,296 or 12.77 of the previous year.

8. (a) *Agricultural and other conditions of the year*.—The canal remained in flow for 339 days during the year and was closed for 22 days during *kharif* and 4 days during *rabi*. The monsoon was a good one and the rainfall above the normal except in the early months of the year. The area of crops remitted amounted to 4,855 acres in *kharif* and 1,879 acres in *rabi*, giving percentages of 1.39 and 0.39, respectively, on the area irrigated, against 6,184 acres for *kharif* and 12,630 acres for *rabi* or 1.71 and 2.72 per cent., respectively, in the previous year.

In the dry districts at Hissar and Rohtak there was severe fodder scarcity during the early *kharif* and the preceding *rabi* crop. Enormous quantities of fodder were imported at concession rates for the cattle and there was great demand for water for village tanks, but despite these measures, a

General Remarks.

large number of cattle died and a large number were sent off to more favoured tracts.

The decrease in number and quality of the cattle had also a detrimental effect on the ploughing for cultivation.

The scarcity had a very unfortunate effect upon plantation. The branches of miles of avenues were lopped by the adjoining villages for fodder for their cattle and the dry branches and twigs blown into the canal channels blocked regulators and bridges and required considerable vigilance on the part of the staff for their prompt removal. It will be some time before the damage to the plantation is made good.

Very little advantage was taken by the zamindars of the concession recently granted for levying no water rates on *Gwar* ploughed in as green manure.

The swampy area along the lower reaches of the Main Line is gradually being improved by the system of expensive silting reaches, and the silted up areas are being now brought under cultivation while the area beyond is being cultivated up to the banks of the silting tanks. The upper reaches of the Main Line also provide most beneficial *sailab* cultivation: several thousand acres of sugarcane and other crops are thus grown from the canal *sailab* free of water rates.

The value of crops assessed to water rates amounted to Rs. 3,51,72,945, which shows that the canal is a very valuable asset to the country.

(b) *Nature and scope of contemplated new works and progress made on the preparation of new projects*—(i) Further designs and estimates for the proposed new Level Crossing at Dadupur have been under consideration. This work is, however, likely to be delayed by the impossibility of obtaining the iron work at a reasonable rate until after the war.

(ii) There are proposals under consideration for remodelling the Head-works at Tajewala.

(iii) There is also a project for substituting minors in place of direct watercourses for the Main Line irrigation.

(iv) The work of redesigning the existing old channels scientifically is being carried forward systematically as funds permit, and the advantage of this is already clear from the increased areas of *rabi* crops.

(c) *Interesting facts relating either internally or externally to the Canal*.—(i) The recent reduction in supply of water to the Delhi neighbourhood carried out at the request of the Chief Commissioner is having most beneficial effects. The garden owners naturally at first protested unanimously against the reductions, but they are now following the example set by official Delhi and are clearing out the thick undergrowth in their gardens and letting in air, and the reduced water supply is found to be sufficient. The insanitary state of these gardens is decreasing and the subsoil water level of the neighbourhood is falling also. The sections of the channels are gradually being reduced to correspond with reduction in discharge.

(ii) Saltpetre has been largely manufactured throughout Rohtak and Hissar Districts owing to the demand for it on account of the war. The water for this manufacture is generally supplied by village tanks filled from the canal, though in some cases local *kacha* wells are used.

(iii) The opening of the Jind-Panipat Railway during the year has been a great convenience to the canal area served by it.

(iv) The introduction of indigo on the canal alluded to in last year's report has not been found to be successful and is being abandoned.

9. *Irrigation in Patiala State*.—The irrigation in the Patiala State from the Sirsa Branch was 32,707 acres in *kharif* and 46,132 acres in *rabi* or a total of 79,439 acres exclusive of 242 acres remitted in *kharif* and 13

acres remitted in *rabi*. The average area assessed for the last two triennia ending 1915-16 and 1912-13 was 67,179 and 61,307 acres respectively.

Irrigation in Jind State.—The supply which the Irrigation Branch has undertaken to allow the Jind State is 353 cusecs in order to irrigate an area of 60,000 acres in the year. The irrigation done during the year was 64,253 acres, resulting in an increase of 6,396 acres or 11.0 per cent. over the figures of 1915-16, i. e., 2,859 acres during *kharif* and 3,537 acres during *rabi*. The average areas irrigated during the two previous triennia ending 1912-13 and 1915-16 were 59,449 acres and 61,640 acres respectively.

Besides the area recorded above, the Jind State gets an average of 1,000 acres of irrigation from the Butana Branch which is assessed at the water rates prescribed for the British areas on the Western Jumna Canal.

The maintenance and assessment connected with all Jind distributaries are controlled by the State itself.

The following table shows the working of the Jind State distributaries as reported by the State :—

Particulars.	1912-13.	1913-14.	1914-15.	1915-16.	1916-17.
<i>Receipts.</i>	Rs.	Rs.	Rs.	Rs.	Rs.
Occupier's rate	2,60,401	2,84,720	2,88,998	2,62,054	2,59,054
Miscellaneous	5,023	5,300	5,083	5,078	5,800
Total	2,65,424	2,90,020	2,94,081	2,67,132	2,64,854
<i>Working expenditure.</i>					
Establishment	2,414	7,561	7,817	7,397	10,191
Other expenses	24,995	27,258	23,865	31,770	21,676
Occupier's rate paid into British Treasury .	1,42,359	1,31,070	1,31,000	1,31,070	1,31,000
Total	1,71,768	1,65,889	1,62,682	1,70,237	1,62,867
Profit or loss	+83,747	+1,24,251	+1,26,899	+97,659	+1,00,187

Irrigation in Bikaner State.—The Western Jumna Canal has also to irrigate 160 acres annually in the Bikaner State from the tail of the Hissar distributary. The areas actually irrigated were 324 acres in *kharif* and 637 acres in *rabi*, or a total of 961 acres against 483 acres in *kharif* and 85 acres in *rabi* or a total of 568 acres of the previous year. This area pays the ordinary occupier's rates and is assessed by the Canal Staff.

Irrigation in Kalsia State.—The irrigation in Kalsia State from Main Line of the Canal was 739 acres in *kharif* and 793 acres in *rabi* or a total of 1,532 acres exclusive of 23 acres remitted in *kharif* and 117 acres in *rabi*. This area also pays the ordinary occupier's rates and is assessed by the Canal Staff.

The average area assessed for the last three years was 713 acres in *kharif* and 896 acres in *rabi*.

SIREHIND CANAL.

(SUPERINTENDING ENGINEER—MR. E. R. FOX.)

1. (a) **Imperial.**—The expenditure (direct and indirect) amounted to Rs. 36,255 and was incurred on fixing Stoney gates in Rupar undersluices and lock channel, and constructing Executive Engineer's quarters at Rupar; a girder cart bridge at Sahauli, Mile 19, Abohar Branch; and a foot bridge at Bull, Mile 7, Abohar Branch.

(b) **Contribution.**—The expenditure of Rs. 15,284 represents the share borne by the signatory States, of the expenditure incurred on the Head Works and Main Line of the canal.

2. (a) *Imperial*.—The expenditure amounted to Rs. 1,35,272 against Rs. 1,34,403 in the previous year. The only work of importance was the Slab Lining Experiments on the Main Line. A large number of slabs were made, but the work could not be completed for want of a canal closure. Considerable progress was made on raising and widening the sunken bridges on distributaries in the Ferozepore Division. Amongst minor works of importance are—raising and renewing the shoots of Jaghara Mills; constructing drinking reservoirs at certain rest-houses; improving Gahil rest-house and making a telephone office and Gauge-Reader's hut at Gholia.

(b) *Contribution*.—Expenditure amounted to Rs. 1,21,675, of which Rs. 82,383 represents *soigniorago* charges. The balance of Rs. 39,292 is partly the share of expenditure on works on the Main Line and Head Works and partly the expenditure incurred on huts for petty establishment, erecting iron railings on ramps of bridges, etc., on Native States branches.

3. (a) *Imperial*.—The expenditure was Rs. 5,75,544 against Rs. 4,19,363 in 1915-16. The excess of Rs. 1,56,181 was caused by very heavy expenditure on the Budki, Siswan and Sugh torrents which had been rather neglected in previous years. A regular policy of training and defensive works was instituted. New and substantial forms of protection were adopted and it is confidently anticipated that after further work to be done in 1917-18, based on the experience gained in the current monsoon, we should have an impregnable series of protective works which should necessitate little or no repair work in future years.

Whereas of the works carried out in the ten years prior to 1915 little remains, the substantial works built in the winters of 1915-16 and 1916-17 have on the whole stood very well, and signs of weakness or defects in the designs will be removed this year and the future can be looked to with confidence.

All the above heavy works were carried out in addition to the ordinary maintenance of channels, works and buildings.

(b) *Contribution*.—The expenditure was Rs. 2,22,061 as compared with Rs. 1,42,931 spent in the previous year. The increase is due to heavy work on the torrent crossing the Main Line referred to in the previous paragraph.

4. (a) *Kharif, 1916*.—The canal was in flow for 125 days. The failure of the winter rains of 1915-16 led to a keen demand in the early months for water for fodder crops. This was followed by a heavy and well-distributed monsoon, and demand ceased entirely, so that the canal was closed all August. There was only a moderate demand in September. In spite of good rainfall the area irrigated, owing to extensive sowings early in the year on the whole canal, was the second highest on record, being only about Rs. 10,000 acres less than the maximum of 555,208 acres in *Kharif* 1914.

(b) *Rabi, 1916-17*.—The canal was in flow throughout the season. Owing to a heavy monsoon which was prolonged into October there was not an excessive demand early in the season. The river was high and rotational turns did not begin till 10th November, after which the supply fell and remained low throughout the season. There was no rise in the river owing to the failure of the winter rains and absence of storms in the hills, also there was no snow in the lower ranges of hills. The whole of the available supply was required for land already canal irrigated, and there was no water to spare for the large *barani* area which had been sown and, in the absence of rain, required canal water to mature.

The cultivators on this canal gamble on the rainfall. Had the river been kinder a large portion of the *barani* area would have become canal irrigated to the advantage of the cultivators and the canal.

(c) *Rainfall*.—The table below compares the mean rainfall of the year over the irrigated tract in each district with the average mean of 33 years. The *Kharif* rainfall was up to or in excess of the average, but the *rabi* rainfall was in considerable defect:—

District.	Crops.	RAINFALL.		Percentage of actual to average of 33 years.
		1916-17.	Average of 33 years	
Ludhiana	<i>Kharif</i> , 1916 ...	15.58	15.82	
	<i>Rabi</i> , 1916-17 ...	1.74	3.25	
	Total ...	17.32	19.07	91
Perozepore	<i>Kharif</i> , 1916 ...	14.35	11.53	
	<i>Rabi</i> , 1916-17 ...	0.75	2.14	
	Total ...	15.10	13.72	110
Native States	<i>Kharif</i> , 1916 ...	16.70	15.08	
	<i>Rabi</i> , 1916-17 ...	2.40	3.05	
	Total ...	19.10	18.13	105

5. The following table compares the irrigation effected during 1916-17 with the averages of the two triennia ending 1912-13 and 1915-16:—

Area irrigated.
Kharif, 1916.
Rabi, 1916-17.

Crop.			Average of three years ending 1912-13.	Average of three years ending 1915-16.	1916-17.
			Acres.	Acres.	Acres.
BRITISH BRANCHES.					
<i>Kharif</i> ...	...	...	258,200	321,756	333,500
<i>Rabi</i> ...	...	...	605,913	557,634	558,191
Total	...	...	864,113	879,390	891,781
NATIVE STATES BRANCHES.					
<i>Kharif</i> ...	...	...	148,528	191,450	211,186
<i>Rabi</i> ...	...	...	207,264	308,743	322,775
Total	...	...	445,792	500,202	533,959
BRITISH AND NATIVE STATES BRANCHES.					
<i>Kharif</i> ...	...	...	406,728	516,215	544,774
<i>Rabi</i> ...	...	...	903,177	866,377	880,326
Total	...	...	1,309,905	1,382,592	1,425,740

These figures show that the irrigation for the year was in excess of the average of either of the triennia quoted, although there was a decrease of 81,327 acres compared with the area irrigated in the previous year; this defect was in the *rabi*, the *kharif* was a very good one and the second highest on record, 544,774 acres against the maximum of 555,208 acres in *kharif* 1914.

The *rabi* area of 880,966 acres was over the average of the triennium ending 1915-16, but slightly less than the average of the triennium ending 1912-13. The latter period was affected by the *rabi* crops of two very favourable years 1911-12 and 1912-13.

However, we may claim to have had a very favourable year; the total area irrigated has only been surpassed on three occasions, *viz.*, in 1911-12, 1912-13 and 1915-16. The percentages of increase over the triennium ending 1915-16 were 5.53 in *kharif* and 1.63 in *rabi*.

The Native States branches also did very well, the *kharif* area being the highest on record, *viz.*, 211,184 acres.

6. The details of traffic in tonnage and receipts is shown in this table :—

Navigation.					
Particulars.				1915-16.	1916-17.
Tonnage carried	...	...	...	31,249	24,209
Value of tonnage	...	...	...	11,72,252	924,557
Toll receipts and raft dues	...	...	...	17,158	15,141
Maintenance charges	...	...	...	5,834	3,628
Number of passengers carried	...	...	...	20,605	18,409

There was a reduction in maintenance charges, and in consequence the net return was better than in the preceding year in spite of lower tonnage and fewer passengers.

7. (a) *British Branches*.—The net revenue earned by the British branches amounted to Rs. 29,76,526 equivalent to 11.63 per cent. on the capital invested as against 7.78 per cent. in the previous year. This favourable result was due to—

Financial results based on Collections.
Rabi, 1915-16.
Kharif, 1916.

(a) the very good *rabi* of 1915-16 (second highest on record) collected in 1916-17;

(b) an uncollected balance of Rs. 1,35,000 at the end of previous year collected during the year;

(c) the very poor *rabi* of 1914-15 (collected in 1915-16).

The following table gives the amount of occupier's rates collected and balance uncollected :—

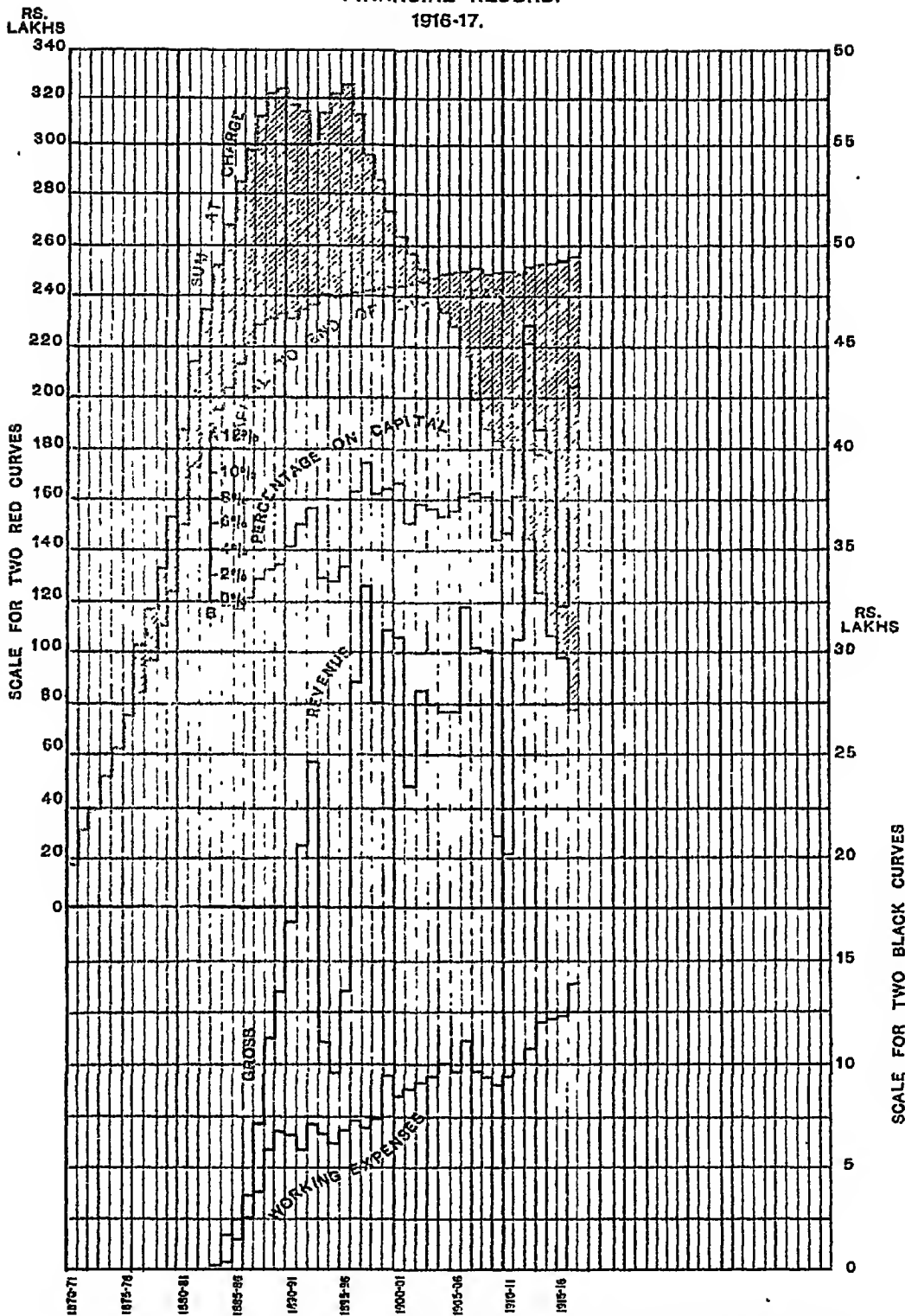
Year.				Collected.	Balances uncollected.
				Rs.	Rs.
1914-15	...	...	...	35,92,152	28,909
1915-16	...	...	...	23,09,289	1,35,547
1916-17	...	...	...	39,53,965	23,098

The working expenses were Rs. 13,87,150 which was 1,48,292 more than in the previous year. The excess has been explained in paragraph 3 (a) *supra*. The working expenses per acre irrigated were 1.56 against 1.24 in the previous year.

SIRHIND CANAL—BRITISH.

FINANCIAL RECORD.

1916-17.



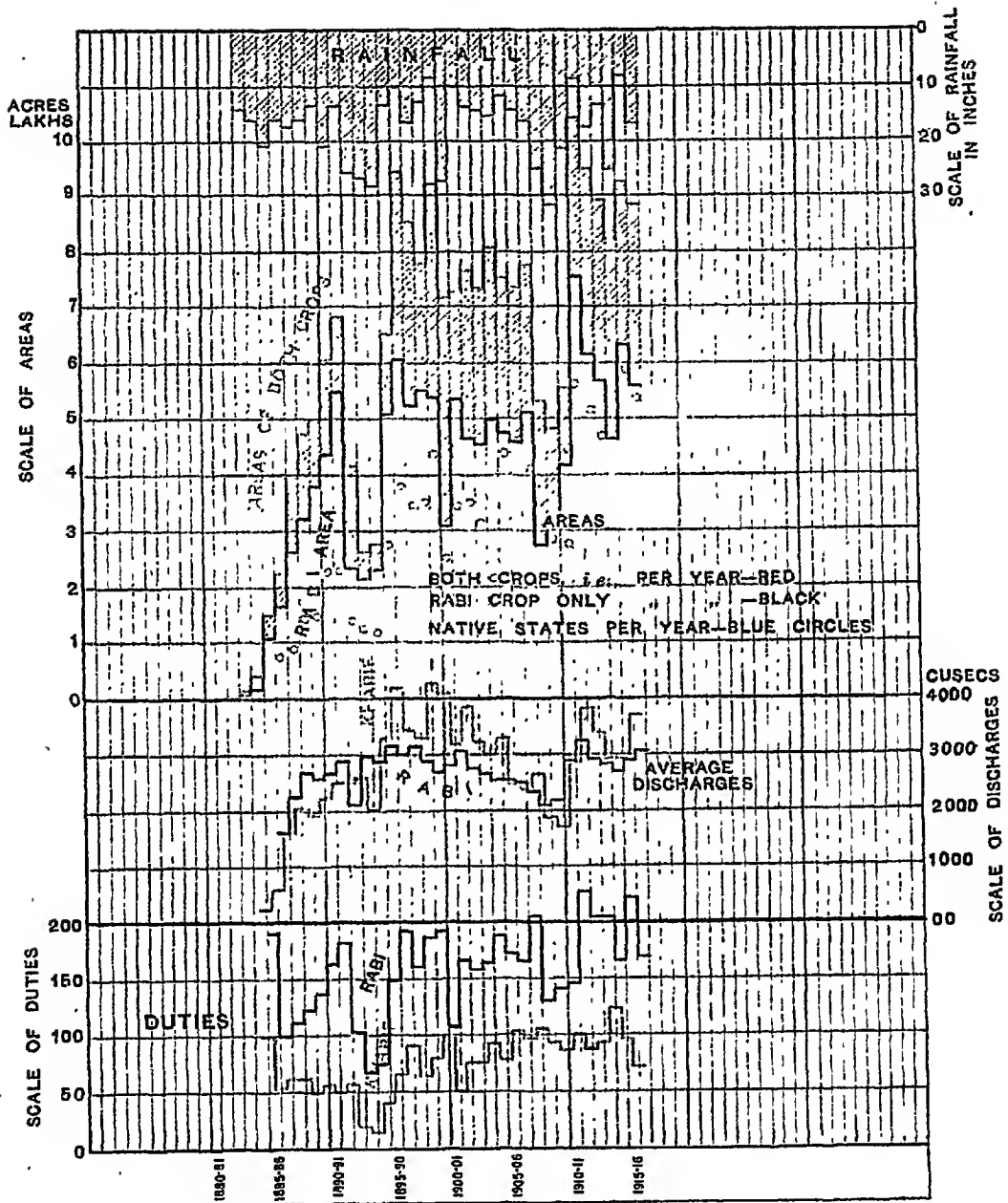
N. B.—The intercepts in the red area show arrears of interest which, added to the capital, give the sum at charge. Where the two red curves cross all such arrears were wiped off, and there after accumulated profits accrue, as measured by the intercepts in the blue area.

The scheme was begun about 1870 and opened in 1883-84. The lapse from prosperity shown in period 1888 to 1896 was partly due to silt troubles since overcome, and to exceptionally heavy rain.

The intercepts between the black curves give the net revenue.

No interest is charged on the arrears of interest, so the sum at charge is somewhat untrue.

SIRHIND CANAL—BRITISH. WORKING RECORD. 1916-17.



N. B.—The intercepts in the red area give the Kharif acreage each year.

The small areas of 1892 to 1896 were partly due to silt difficulties, but chiefly to heavy rain. The working is more or less unsteady always.

The discharges are measured in main line 26 miles from the head. Of the whole supply 36% goes to Native States, not included here; so that the discharges here shown are only 64% of the actual flow.

These States ought therefore to do areas equal to $\frac{36}{64}$ ths of those shown above. The actual areas done for both crops are shown for comparison by blue circle, and it will be seen that owing to less efficient management they have done less than half the British, instead of $\frac{36}{64}$ ths. In winter the whole river is taken in; in Kharif the supply is more than enough, but the demand is then always low.

(b) *Native States Branches*—The following table compares the figures of collections, assessments, profits and area assessed with the previous year:—

Year.	AMOUNT OF REVENUE.		Area assessed.	PROFIT ON	
	By collection.	By assessment.		Collection.	Assessment.
	Rs.	Rs.			
1915-16	22,46,852	25,94,262	577,811	9-90	12-33
1916-17	25,72,310	24,22,608	532,050	11-35	10-83
More or less	+8,25,458	-1,71,654	-45,761	+1-48	-2-00

The profits on "collections" are high because of the good *rabi* crop of 1915-16 collected in 1916-17. The estimated profits on assessments are lower because of the smaller *rabi* crop of 1916-17.

8. *New projects.*—(a) An estimate for constructing two small distributaries for irrigation in the Maler Kotla State has been submitted to the Government of India and their orders are awaited.

(b) The Bhakra Dam Project (in previous years referred to as the Neith Dam) is in course of preparation. The areas to be served and the volumes required for them have now been fixed. All field work is practically finished and alignments of new main channels have been selected. The site of the new headworks below Phillaur near the battlefield of Aliwal of the 1st Sikh War has been fixed. In the reservoir area complete plans have been prepared on village maps showing all details of the submerged areas. Investigations as to silt capacity of water borne in the Sutlej above Bhakra and at Ruper have been carried out. Detailed proposals for the design of the Dam itself, its sluices and spillways are under consideration. It is anticipated that the total area of new irrigation will average 1,500,000 acres annually.

(c) A small project for utilizing the waste waters of the Sutlej Navigation Channel (run in the *kharij* to work mills) to irrigate the country in the neighbourhood of Ferozepore is also under preparation.

Effect of enhancement of water-rates.—The effect of enhancement of water rates in the case of sugarcane, cotton and wheat has not been such as to restrict the areas under these crops. Compared with the previous year the results are as follows:—

Sugarcane.—Area irrigated 1,725 acres against 1,071 in the previous year.

Cotton has made a big jump—10,773 acres sown in 1916 against 1,631 acres in the preceding year. This rise is due to far better market rates than prevailed in the previous year.

Wheat.—The area under wheat has dropped from 299,013 in 1915-16 to 258,280 in the year under review, but this falling off is only due to the general decrease in the whole area of the *rabi* crop.

Agricultural conditions.—The year may be looked on as generally favourable. The monsoon of 1916 was favourable and well distributed, permitting large *barani rabi* areas to be sown. If there had been winter rains the crop would have been a bumper one. As it turned out canal irrigated crops were average to good; *barani* crops poor to average.

Some hail in March did slight damage in the Ludhiana and Bhatinda Divisions; considerably more damage was done by the rain which fell in April and May this year which interfered with harvest operations and damaged grain on the winnowing floors.

The area of failed crops on which water-rates were remitted was only 10,212 acres against 32,603 in the preceding year.

Interesting facts.—The period for which the Project Division was sanctioned had to be extended for a year till October 1917. It will be necessary to ask for a further extension of six months.

The necessity for another irrigating Division was recognized, but the scheme is held in abeyance till the cessation of the war owing to additional expenditure involved. The question of extending the area on which perennial should be converted into *khariif* irrigation in order to improve water-logging conditions is under consideration again.

UPPER BARI DOAB CANAL.

(SUPERINTENDING ENGINEER—MR. F. W. K. YEOMANN).

1. The expenditure (direct and indirect) on works, excluding Suspense, amounted to Rs. 1,25,769 against Rs. 4,79,600 in the previous year, and was incurred on remodelling the Head Works at Madhopur; the Hydro-Electric Installation at Amritsar; and lining the Main Branch Lower with cement plaster.

Capital account.
Khariif, 1916.
Rabi, 1916-17.

The sum of Rs. 1,25,769 includes Rs. 84,847 on account of expenditure in England. The Suspense account showed a credit balance of Rs. 1,55,923 compared with the credit balance of Rs. 1,30,418 in the previous year.

2. Expenditure amounted to Rs. 1,06,811 against Rs. 1,02,058 in the previous year, and was chiefly incurred on constructing outlets and culverts, Niaz Beg Distributary; remodelling Ghosal and Tarpai Drains; and providing gates and winches for Sathiali Regulator. Besides these a number of other miscellaneous works of an urgent nature and of small magnitude were executed.

Extensions and Improvements.

3. Expenditure amounted to Rs. 4,63,600 against Rs. 5,36,636 in 1915-16. In addition to the ordinary annual maintenance and repairs expenditure was incurred on the following important items:—Works in the river at the Head Works; shingle clearance from the Main Canal and Feeders; extending boulder pitching in the Main Line and Main Branch Upper and on numerous petty works.

Maintenance and repairs.

4. The total output of manufactures during the year amounted to Rs. 2,13,124 (in addition to the cost of munition work) against Rs. 2,61,834 in the previous year. The percentage charges realized on the value of work done amounted to Rs. 67,560 only against Rs. 1,04,581 of the previous year, but, in addition to this, a sum of Rs. 68,968 on account of departmental charges on munition work was credited. The Power Station of the Amritsar Hydro Electric Pumping Scheme was completed. Munition work continued for about nine months of the year and the expenditure on this special work amounted to Rs. 2,35,033 which was transferred to the Railway Board (Munitions).

Central Workshops.

A considerable amount of work was done for other circles in connection with—

- (i) remodelling Khanki Weir Shutters;
- (ii) fitting the Merala Regulator with standing gear and balanced gates;
- (iii) remodelling the Rasul Regulator, etc.

5. The following table compares the area irrigated during the year with the average of the two previous triennia:—

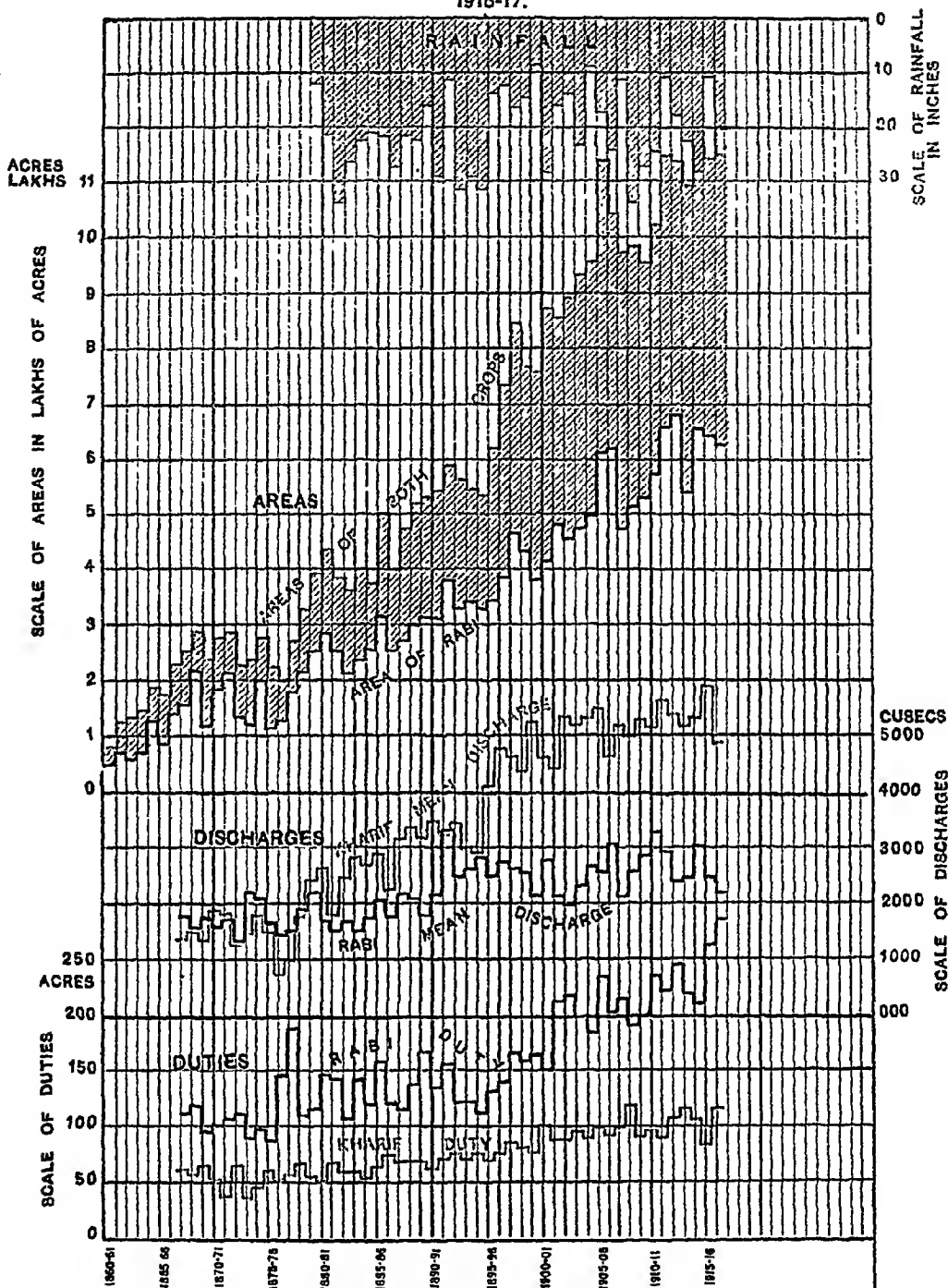
Area Irrigated.
Khariif, 1916.
Rabi, 1916-17.

Crop.				AVERAGE OF 3 YEARS ENDING		AREA IRRIGATED DURING
				1912-13.	1915-16.	1916-17.
				Acres.	Acres.	Acres.
Khariif	...	...	...	498,702	529,633	569,406
Rabi	...	...	...	622,287	623,770	631,991
Total				1,120,989	1,153,403	1,201,397

UPPER BARI DOAB CANAL.

WORKING RECORD.

1915-17.



N. B.—The intercepts in the red area show the Kharif acreage each year.

The discharges are measured at canal head and are averages for each crop.

The duties are derived from these areas and discharges.

Remarks.—The Kharif duty is fairly uniform and increasing slowly.

The Rabi duty is more irregular, due to variation in demand, but is increasing recently.

The Rabi supply decreased fairly steadily from 1891-92 to 1902-03, but nevertheless the areas increased owing to higher duty.

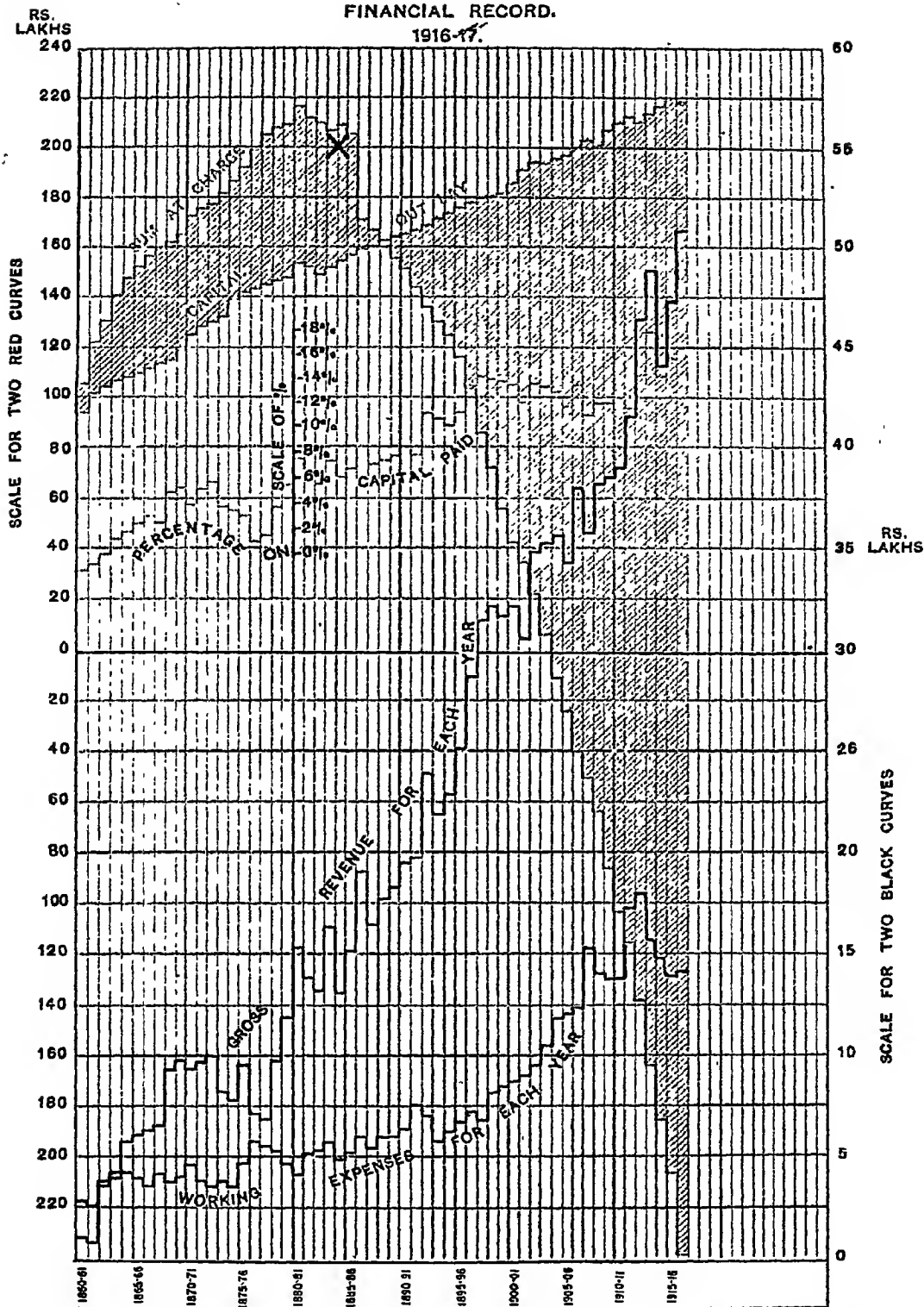
The Kharif supply has increased since 1884 very considerably, owing to the capacity of the canal being enlarged.

Usually the whole of the river winter supply is taken in for the Rabi crop, but after March and up to September the river supply is in excess of requirements.

UPPER BARI DOAB CANAL.

FINANCIAL RECORD.

1916-17.



N. B.—The intercepts in the red area show arrears of interest unpaid up to end of each year, which being added to the capital give sum at charge.

The intercepts in the blue area give the accumulated profits. In 1904-05 the whole capital was reimbursed.

No interest is charged for the surpluses in the red area, so the diagram is rather distorted in this respect.

The intercepts between the black curves give the net income each year.

Remarks.—The sudden drop at X is partly due to a write-back of about 30 lakhs, but was continued by the rapid development of irrigation in the lower reaches of the canal. Up to 1886-87 the canal worked at a loss, since then it has been very profitable.

Nature of Seasons and state of Demand and Supply.
Kharif, 1916.
Rabi, 1916-17.

6. The mean rainfall is compared with the averages of the previous three years in the following table:—

District.	1916-17.		AVERAGE OF PREVIOUS 3 YEARS ENDING 1915-16.	
	Kharif.	Rabi.	Kharif.	Rabi.
Gurdaspur	28.21	1.51	26.73	7.02
Amritsar	27.56	0.39	17.14	5.49
Lahore	21.89	0.73	12.87	4.09

The monsoon of 1916 was, on the whole, a very favourable one. Rain was general during June, July, August and September, and was particularly heavy during July and August when rain was recorded on 15 and 18 days, respectively, at Madiohur.

A short break occurred from 1st to 17th September, but after that rain continued up to 5th October when the monsoon ended.

From 6th October to the end of March there was no rain except for isolated showers of small amounts during January and March, and the failure of the winter rains put a very great strain upon the canal, more especially as the river supply was abnormally low. However, in spite of the extremely unfavourable conditions, the large rabi area was matured without any unusual remissions having to be given.

7. The net income (direct and indirect) amounted to Rs. 37,89,733, equivalent to 17.35 per cent. on the capital invested against 15.29 per cent. of the previous year.

Financial results based on collections.
Rabi, 1915-16.
Kharif, 1916.

The uncollected balance of occupiers' rate was Rs. 15,912 against Rs. 14,975 at the end of the previous year. Remissions of water-rate amounted to Rs. 1,02,704 against Rs. 84,219 in the previous year. The area for which remissions were granted was 29,076 acres compared with 22,850 acres in 1915-16.

8. (a) *Duty*.—The average duty secured on the supply utilized was 117 acres in *kharif* and 285 acres in *rabi* as against 83 and 263, respectively, in the previous year.

General Remarks.

Owing to the failure of the winter rains no extended closure for repairs was possible, but on account of heavy rainfall the canal was closed at the Head from 15th to 28th July.

(b) *Principal crops*.—The principal crops grown during the year are compared in the following table with those grown in the previous year:—

Name of crop.					1916-16.	1916-17.
					Acres.	Acres.
Wheat	...	...	...	...	241,185	248,539
Barley	...	...	...	...	6,251	5,375
Rice	...	...	...	...	72,749	80,854
Maize	...	...	...	...	88,517	74,569
Millet	...	...	...	...	45,907	137,379
Cotton	...	...	...	...	88,290	147,021
Sugarcane	...	...	...	...	29,601	42,465

*Includes chauri which was not the case last year.

The increase under cotton is noteworthy as it seems to show that the cultivators were eager to take advantage of the high market rates prevailing.

(c) *Agricultural conditions*.—The monsoon of 1916 was extremely favourable and continued up to an unusually late date. Had it not been for this the total failure of the winter rains would have had a much more serious effect upon the agricultural conditions.

Scarcity of water during the *rabi* months prevented the straw growing to its normal length and the outturn of *bhusa* was thus very short, and the untimely rain which fell in April 1917 interfered with harvesting and damaged the grain to some extent.

(d) *Contemplated new works*.—Remodelling Head Works (outlet).

In eight out of twelve bays the old gates were replaced by quick-lifting gates obtained from Messrs. Ransome and Rapier in England and in the remaining four bays similar new gates will be fitted during the next cold weather. The new gates are working very satisfactorily. Four bays of the inlet out of 23 have been fitted with radial arm gates, and it is hoped to provide this type of gate throughout the inlet as soon as materials can be obtained at reasonable rates.

LOWER BARI DOAB CANAL.

(SUPERINTENDING ENGINEER, MR. R. OANNELL).

- | | |
|--|--|
| <p>1. The expenditure (direct and indirect) was Rs. 7,92,271 which raised the total amount debited to the Project at the end of the year to Rs. 2,18,74,263 against the Revised Project Estimate of Rs. 2,20,28,402.</p> | <p>Capital account.
Kharif, 1916.
Rabi, 1916-17.</p> |
|--|--|

The above expenditure includes a temporary debit of Rs. 11,46,636 spent on the construction of water-courses pending recovery from the colonists.

The Revised Project Estimate was closed at the end of the year under review with a saving of Rs. 13,00,775 including the amount to be recovered from colonists.

The expenditure was incurred chiefly on the following works:—

(a) *Head Works*.—Painting ironwork of the Balloki Level Crossing; determining values for the Ravi sand at Balloki to ascertain the limiting safe hydraulic gradient of the barrage; strengthening the Balloki Weir glacis at a cost of Rs. 1,56,451; fixing pressure and relief pipes, for observations, in the new floor; and repairing the stone apron downstream of the weir opposite Bays 1 to 4.

(b) *River Training Works*.—Including necessary maintenance and repairs to embankments and spurs and a planetable survey of the river Ravi above and below the barrage.

(c) *K—Buildings*.—Some quarters for zilladars were completed and the construction of others was held in abeyance owing to stringency of funds due to the war. Superintending Engineer's house and office at Montgomery were completed: also the Nathuwala rest-house. A double set of signallers' quarters (permanent) was constructed at Balloki.

(d) *Plantation*.—Plantation operations were carried out on a small scale only, as expenditure is restricted, avenues were extended and those in existence carefully maintained.

(e) *Distributaries*.—Construction of distributaries 1-L, 2-L, and 8-AR was commenced during the year. 1-L was completed, and the channel excavation of 2-L one-third completed. The project and designs for 8-R were sanctioned.

(f) *Water-courses*.—During the year the construction of water-courses was completed on allotted areas, and in some cases, in advance of colonization.

Extensions and Improvements.

2. An expenditure of Rs. 8,961 was incurred on different petty works.

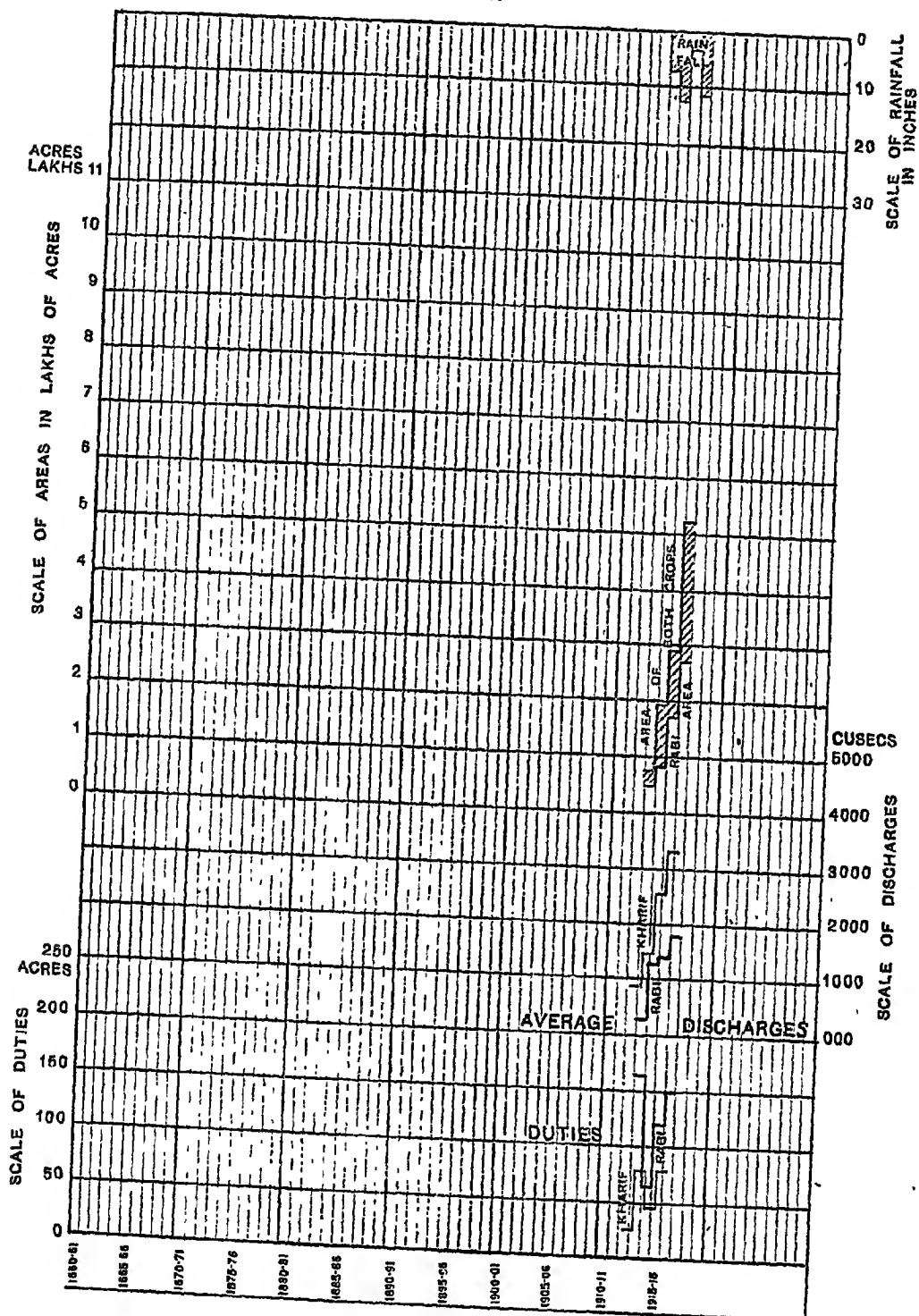
3. An expenditure of Rs. 3,59,646 was incurred on ordinary maintenance of channels, masonry works and buildings, the process of stanching and consolidating new banks and the encouragement of berm formations were continued zealously.

Maintenance and Repairs.

LOWER BARI DOAB CANAL.

WORKING RECORD.

1916-17

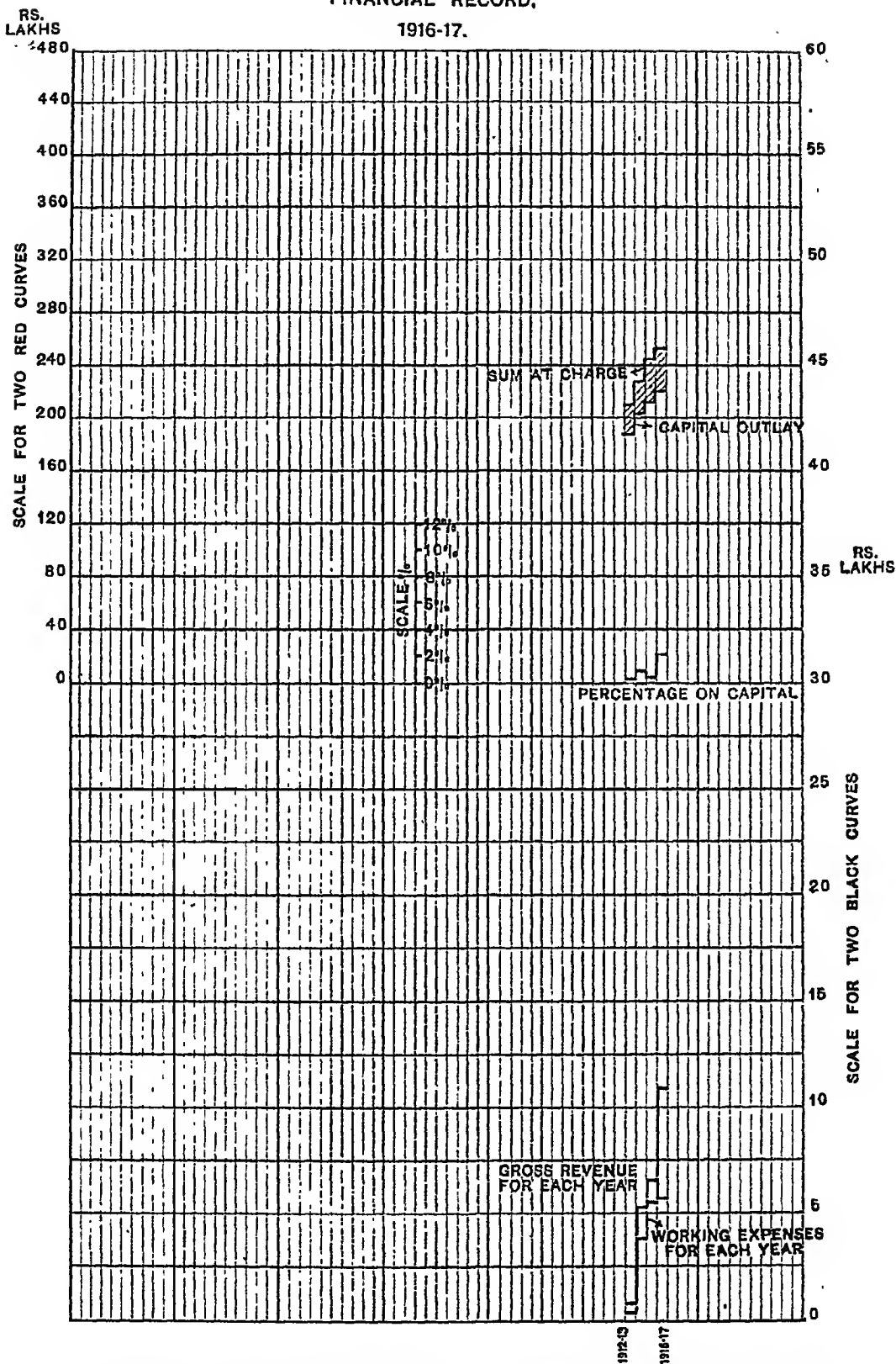


N.B.—The intercepts in the red area show the Kharif acreage each year.
The discharges are measured at canal head and are averages for each crop.
The duties are derived from these areas and discharges.

LOWER BARI DOAB CANAL.

FINANCIAL RECORD.

1916-17.



N. B.—The intercepts in the red area show arrears of interest unpaid up to end of each year, which being added to the capital give sum at charge.

The intercepts between the black curves give the net income each year.

Generally, there were very few breaches, and nowhere was the supply of water restricted and short on account of inefficient channel maintenance.

4. The canal flowed for 343 days (*viz.*, 171 days during *kharif* and 172 days during *rabi*) against 264 days during the previous year. The demand for canal water was good during the *kharif* and very keen in *rabi*.

Nature of Seasons and state of Demand and Supply :
Kharif, 1916.
Rabi, 1916-17.

The rivers in the winter were very low and the water during the *rabi* had to be distributed under a fixed rotational system throughout. Although the Upper Jhelum Canal supplies improved during the winter yet they were still short of full design and, in order to avoid harassment due to the shortage of water, a scheme for water distribution had to be worked out. The winter river supplies proved to be the minimum on record and a shortage was felt.

Rainfall was abnormal during *kharif* 1916 and scanty during *rabi* 1916-17. The rainfall is compared below with the average of the previous year:—

			1916-17.	1915-16.
Lahore	...	...	18.42"	4.27"
Montgomery	...	...	12.90"	4.19"
Multan	...	...	5.46"	2.35"

5. The following table compares the areas irrigated with those of the previous year:—

District.		1915-16.			1916-17.		
		<i>Kharif.</i>	<i>Rabi.</i>	Total.	<i>Kharif.</i>	<i>Rabi.</i>	Total.
Lahore	...	1,468	1,538	3,056	2,211	1,941	4,152
Montgomery	...	92,370	131,006	226,376	181,046	196,911	380,957
Multan	...	21,136	32,726	53,862	62,186	67,641	129,827
Total	...	114,974	168,320	283,294	243,143	266,493	514,936

Compared with the Project the total area irrigated shows a falling off of 125,064 acres. This was to be expected as the Upper Jhelum Canal, on which the working of this canal is dependent, was opened a year later than it was anticipated in the Project and was not able to carry the full supply intended,—*vide* paragraph 4 above. The abnormally low supply in the rivers and absence of winter rainfall were also the reasons which led to this shortage in irrigation.

6. The gross receipts (direct and indirect) amounted to Rs. 9,64,893 and the working expenses to Rs. 6,26,356, resulting in a net saving of Rs. 3,38,537.

Financial results based on collection :
Rabi, 1915-16.
Kharif, 1916.

7. During the year the Tulamba Sub-Division was constituted in the Khanewal Division for the construction of S-K and S-AR distributaries.

* General Remarks.

The staff of the Montgomery and Okara Divisions were engaged in developing new channels and maintaining a supply of water, necessary for the growth of irrigation. The principal work in the Balloki Division was that of thickening the glacis of the weir at a cost of Rs. 1,65,000. The work was completed satisfactorily.

The Gugera Branch, as a combined *kharif* and perennial channel, was not working satisfactorily and the question of converting it into a perennial channel was under consideration.

Proprietary lands have been broken up and are being irrigated. The available *culturable Crown waste* lands after deducting bad lands, "ghair-mum-

kin," etc., and the total areas of Crown waste land allotted at the beginning and end of the year are given below :—

Canal Division.	CROWN WASTE LANDS, IN ACRES.		
	Culturable area:	Allotted to 1st April 1916.	Allotted to 31st March 1917.
	Acres.	Acres.	Acres.
Balloki ...	}		
Okara ...			
Montgomery ...			
Khanewal ...			
Total ...	927,622	423,615	656,394

A large area of Crown waste lands of good culturable quality remains to be allotted, and it is necessary for quick development to give them out on temporary leases if not on permanent.

The headquarters of the Circle Office and its staff were moved from Lahore to Montgomery in October 1916.

UPPER CHINAB CANAL.

(SUPERINTENDING ENGINEER—MR. N. WHITE.)

1. The construction estimate was closed on 31st March 1917 with an expenditure of Rs. 3,53,42,184 (direct and indirect) including Rs. 8,25,060 transferred to the Upper Jhelum Canal Project, against the Revised Project estimate of Rs. 3,65,32,021.

The expenditure during the year amounted to Rs. 8,40,591 and was chiefly incurred in carrying on the construction of the Raya and Nokhar Branch systems; the distributaries on these are now nearly complete; only a few minor channels remain; also in completing the Dog Diversion Channel and on purchasing cast-iron pipes for outlets and on bridges, buildings and embankments.

2. The only important work carried out was an extension of one of the river weir groynes at Marala; this groyne was extended downstream to break up a cross current that had set up along the face of the weir; the work, commenced last year, has since been completed and found successful.

The total expenditure was Rs. 25,803 out of which Rs. 21,602 were spent on the above work.

3. The expenditure of Rs. 4,65,154 was about 20 per cent. in excess of the previous year, due partly to opening up of new channels and partly to the strengthening of the new banks of the main canal to cope with the higher supplies required by the expansion of irrigation on this and the Lower Bari Doab Canals.

4. The following statement compares the rainfall with the previous years :—

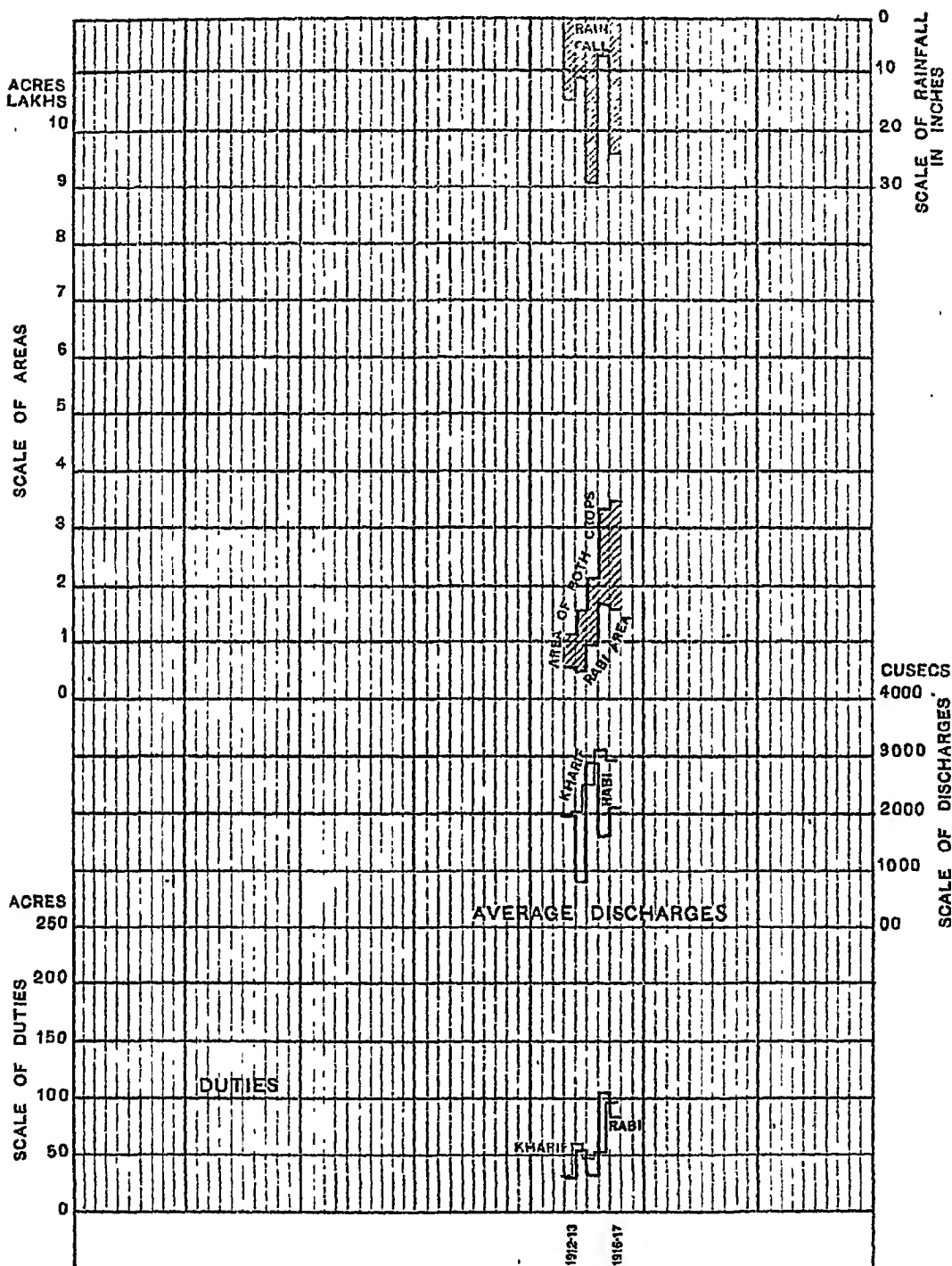
District.	1912-13.		1913-14.		1914-15.		1915-16.		1916-17.	
	Kharif.	Rabi.	Kharif.	Rabi.	Kharif.	Rabi.	Kharif.	Rabi.	Kharif.	Rabi.
Sialkot ...	14.0	2.9	19.0	2.9	25.0	7.7	9.6	1.7	29.46	0.72
Gujranwala ...	11.7	2.4	15.2	2.4	20.0	5.1	4.2	0.9	24.85	1.24

The monsoon was above normal and the *kharif* crops very fair, but the winter season was again abnormally dry and the river supplies again unusually low; great difficulty was consequently experienced in maturing the *rabi* crops and 9 per cent. failed.

UPPER CHENAB CANAL.

WORKING RECORD.

1916-17.

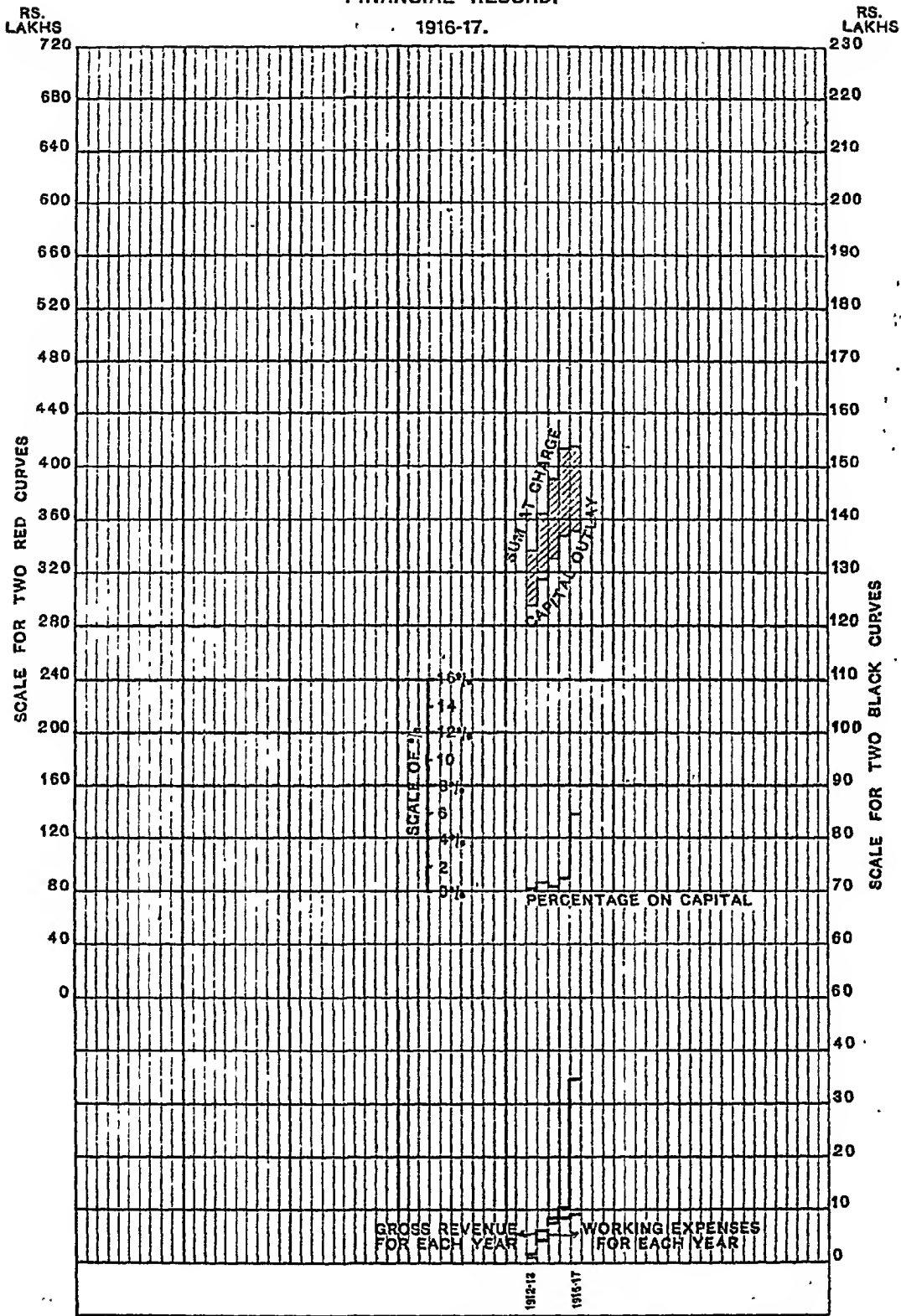


N. B.—The intercepts in red area give the Kharif irrigation each year. The discharge are measured at Merala the head of canal and give averages for each crop. The duties are derived from these areas and discharges.

UPPER CHENAB CANAL.

FINANCIAL RECORD.

1916-17.



N. D.—The intercepts in the red area show arrears of interest which, added to the capital, give the sum at charge.

The intercepts between the black curves give the net income each year.

Construction commenced in 1905 and the canal was opened in 1912.

5. The area irrigated compares with the figures for the preceding years :—

Area irrigated :
Kharif, 1916.
Rabi, 1916-17.

Years.	Kharif.	Rabi.	Total.
1912-13	62,691	53,471	116,162
1913-14	123,882	40,228	164,110
1914-15	121,189	90,693	211,882
1915-16	159,152	165,910	325,062
1916-17	285,917	151,560	437,477

The increase in the *kharif* area is remarkable but the *rabi* area, on the other hand, has dropped slightly ; this is entirely due to the failure of the winter rains and the low river supply.

6. The gross receipts, working expenses and net revenue are given below and compared with the previous three years :—

Financial results based on Collections :
Rabi, 1915-16.
Kharif, 1916.

Years.	REVENUE.			Working expenses.	Net Revenue.
	Direct.	Indirect.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
1913-14	5,53,366	5,903	5,59,269	4,03,077	1,56,192
1914-15	6,21,061	2,91,762	8,25,326	7,75,292	50,534
1915-16	9,33,256	61,077	10,17,333	8,33,808	1,83,525
1916-17	23,08,678	2,51,872	25,63,550	8,36,261	17,25,286

The total receipts anticipated in the Project forecast amounted to Rs. 28,53,145 (direct Rs. 20,99,529 and indirect Rs. 7,53,616). Actual direct receipts exceed the forecast. The indirect are short because the system of indirect credits on this canal has not been fully settled ; the question is complicated and is under consideration.

7. The Deg Nallah was active during the monsoon, but the Deg Diversion embankment was maintained intact although the flood water reached as high a level as in 1914 ; the diversion channel has scoured satisfactorily and the possibility of damage by floods thereby reduced.

LOWER CHENAB CANAL.

(SUPERINTENDING ENGINEER—Mr. F. T. BATES.)

1. The expenditure (direct and indirect) amounted to Rs. 5,58,238, bringing the total outlay to date to Rs. 3,23,55,018. The expenditure incurred was mainly on the following works :—Water-proofing the Jhang Branch Upper ; constructing a Regulator in the Jhang Branch Upper near Kot Khudayar for improving command in certain distributary channels ; raising the crest of the Khanki Weir for improving command of the silt conditions at Khanki ; and constructing main and subsidiary revetments at the head of the Palkhu Spur at Khanki for improving river approach to the Canal.

Capital account :
Kharif, 1916.
Rabi, 1916-17.

2. The expenditure amounted to Rs. 5,29,113 and was mainly incurred in the improvement of the right bank river defence works ; the construction of seepage drains for the prevention of water-logging in the Hafizabad Tahsil and in the replacing of the old type of masonry outlets by modules for the rateable distribution of water.

Maintenance and Repairs.

3. Expenditure was Rs. 8,79,613 against Rs. 9,95,947 in the previous year.

Nature of Seasons and state of Demand and Supply :
Kharif, 1916.
Rabi, 1916-17.

4. In the *kharif* owing to good general rainfall the demand throughout was moderate and canal supply adequate.

In the *rabi* the rainfall was insignificant causing low river and a keen demand for irrigation.

Rainfall.—The following is the record of rainfall during the year compared with that of the three previous years :—

Mean for				Lyallpur District.	Jhang District.	Gujranwala District.
				Inches.	Inches.	Inches.
<i>Kharif</i> , 1916	...	...	...	11.67	8.99	20.48
<i>Rabi</i> , 1916-17	...	...	...	0.77	0.63	0.93
Total				12.44	9.62	21.61
1915-16	...	...	...	2.28	2.92	5.15
1914-15	...	...	...	18.63	18.89	20.73
1913-14	...	...	...	12.34	12.40	17.87

The rainfall in *rabi* is insignificant.

5. The following table compares the irrigation with the averages of the two previous triennia :—
 Area irrigated :
Kharif, 1916.
Rabi, 1916-17.

Crop.				AVERAGE OF THE 3 YEARS ENDING		Irrigation of 1916-17.
				1912-13.	1915-16.	
				Acres.	Acres.	Acres.
<i>Kharif</i>	...	...	..	706,322	694,635	715,270
<i>Rabi</i>	...	...	...	1,556,940	1,585,995	1,571,459
Total				2,263,262	2,280,630	2,286,729

Compared with the figures for 1915-16 the area irrigated showed an increase of 2,650 acres. The *kharif* area was more by 63,128 acres while the *rabi* figures were less by 60,478 acres. The *kharif* area was the third highest on record and the *rabi* area the fourth highest.

The total area irrigated—2,286,729 acres—consists of 395,678 acres in old villages and 1,891,051 acres in Colony villages.

6. The net revenue amounted to Rs. 1,41,10,320 (direct and indirect) equivalent to a return of 43.61 per cent. on the Capital Outlay of Rs. 3,23,55,018 incurred to the end of the year.
 Financial results based on Collections :
Rabi, 1: 15-16.
Kharif, 1916.

In the previous year the figures of net revenue and percentage on Capital were Rs. 1,26,50,247 and 39.78, respectively.

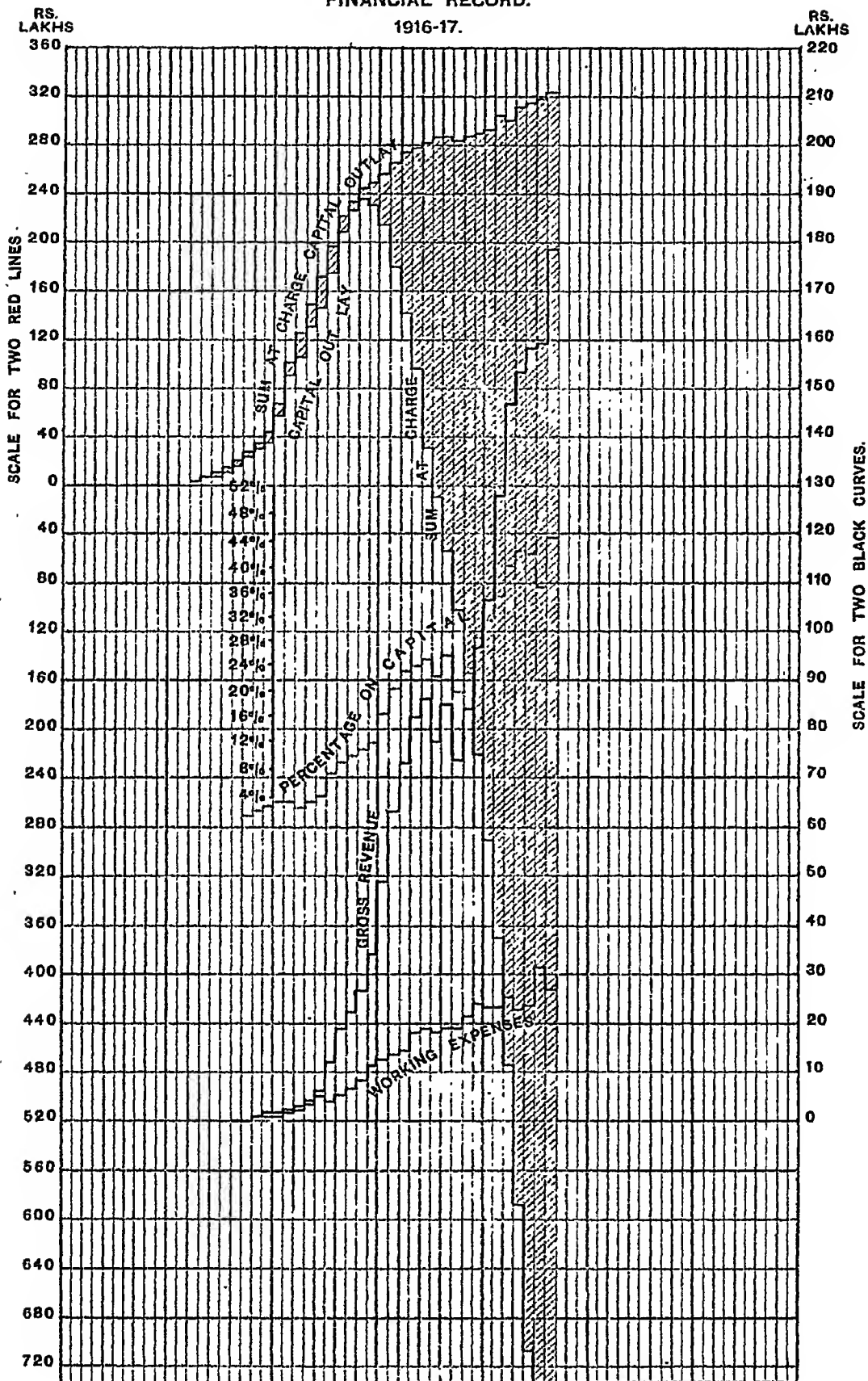
The increase in net revenue in 1916-17 was due to an increase in the area matured in *kharif* 1916 and the record area of *rabi*. 1915-16, the assessment on which was realized during 1916-17.

The accumulated net profits have increased from Rs. 11,40,60,690 to Rs. 12,71,39,012 against a capital of Rs. 3,23,55,018 invested at the close of the year.

LOWER CHENAB CANAL.

FINANCIAL RECORD.

1916-17.

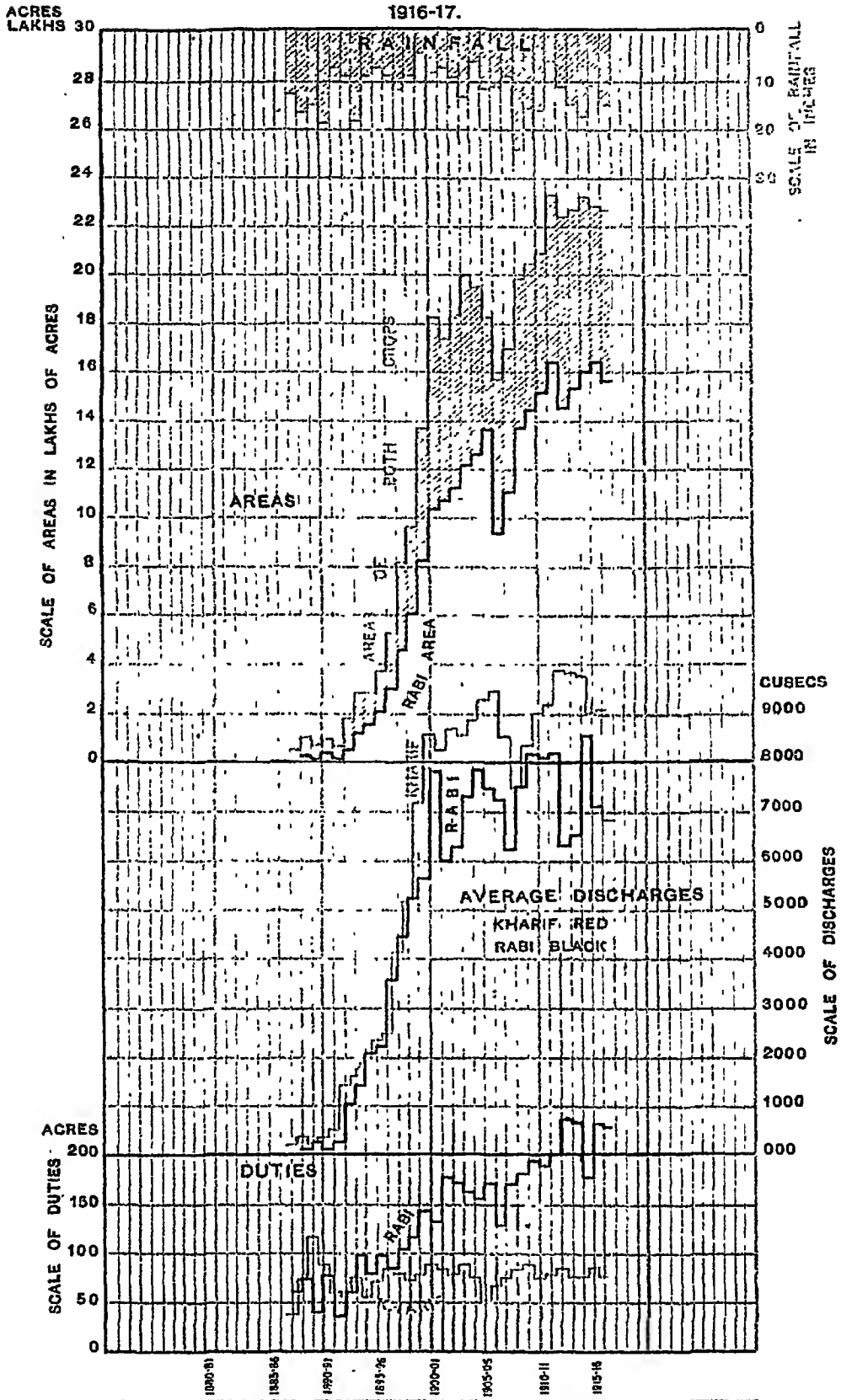


The discharges are measured at canal head and give averages for each crop.
The duties are derived from these areas and discharges.
The Rabi winter supply is comparatively high and reliable on this canal.

LOWER CHENAB CANAL.

WORKING RECORD.

1916-17.



N. B.—The intercepts in the red area show the Kharif acreage each year.
The discharges are measured at canal head and give averages for each crop.
The duties are derived from these areas and discharges.
The Rabi winter supply is comparatively high and reliable on this canal.

7. The canal was closed for 44 days (36 days in *kharif* and only 8 days in *rabi*), so that it ran for 321 days during the year (147 days during *kharif* and 174 days during *rabi*).

General remarks.

The weather and the insufficient supply in the river gave no opportunity for a closure at canal head during the cold weather. The 10 days closures in May, July and August were ordered for the purpose, of scouring out the flume upstream of head regulator as a preventive to silting in the canal. This practice, however, involves an economic loss of water, and a loss of irrigating efficiency, besides being a somewhat ineffective procedure. It has since been realized that in order to exclude from the canal excessive charges of travelling silt, it is necessary to keep the river bed in front of the canal head automatically scoured to a low level; that this state of affairs can only be secured by the maintenance of a certain minimum afflux through the weir-sluiques; and that this, again, can only be ensured by raising the crest of the weir. The crest of the weir was raised by two feet in five out of its eight bays (having previously been raised by two feet in the other three bays in the year 1911-12) during the winter of 1916-17, but it is probable that further elevation will be found necessary in the near future in order to complete the design on sound hydraulic principles.

The area remitted amounted to 3,145 acres during *kharif* and 63,110 acres during *rabi*, giving percentages of 0.44 and 4.01, respectively, on the area irrigated. Out of 63,110 acres remitted during *rabi* 31,301 were attributed to short supply of water in the river and 22,747 acres to the extensive damage done by hail to the wheat and gram crops in the Lyallpur and Jhang Districts.

The duty earned by the canal was 79 acres in *kharif* and 230 acres in *rabi* as against 73 and 230 acres in the previous year. The distribution of the waters of the Jhelum and Chenab Rivers equitably between the canals dependent thereon was in force for the first time during the *rabi* of 1916-17. The method of rotational turns adopted was, on the whole, fair, but experience has indicated modifications which will be tried next winter. This question of distributing small uncertain quantities of water over thousands of square miles of country is a difficult one and success can only be attained in the light of experience.

The problem of ensuring a rateable distribution of water in such a way as to place all irrigators on an equal footing and thus to distribute the shortage of winter supply over so large an area as to make it imperceptible in any individual holding is receiving careful consideration.

The steps taken to prevent the increase of water-logging in the Hafizabad Tahsil have been attended with much success, large areas have been reclaimed and considerable areas have been safeguarded against harm from this source.

UPPER JHELUM CANAL.

(SUPERINTENDING ENGINEER—MR. H. W. M. IVES.)

1. This year, the thirteenth since construction began, brought the project estimate to a close with a total expenditure of Rs. 4,38,49,947, debited against it at end of the year. The expenditure during the year amounted to Rs. 14,88,828. The removal of the foreshore

Capital account:
Kharif, 1916.
Rabi, 1916-17.

above the Mangla Regulator was the chief work in the winter of 1916. With an abnormally low river progress on the foreshore was considerable and it would have been completed altogether but for a rise in the river at the end of March which prevented the clearance of part of the foreshore on the right side down to the 857 level. Thus what remains to be cleared of the foreshore consists of No. 3 Tunnel on the right and its girders with a few isolated reefs in this vicinity. Towards the centre and left the clearance was very thorough and all was cleared down to 857.00 level. During the year 6½ lakhs c.ft. of rock and wet material was removed from the foreshore. The excavation done in the Mangla Cut was nearly 48 lakhs c.ft. chiefly in rock and clay stone in the head reach, and to a large extent consisting of the removal of the big slip that occurred in August 1915, which was noticed in the last year's report.

Several of the distributaries on the main line and Gujrat Branch were completed.

The training works at the tail of the canal where they are connected with those upstream of the Khanki Head Works (Lower Chenab Canal) on the right bank of the Chenab river were completed. The very necessary weir across the Bhimber Diversion Channel was sanctioned and three-fourths completed.

2. The expenditure of Rs. 44,399 was incurred chiefly on providing release gear for dropping the Canal gates at Suketar I and II and Jabba; raising crests of undersluices at Suketar I and II and Jabba; Mangla Out, part E; approach and patrol roads in the Mangla Division, protection below tail fall at R. D. 418,500 feet, main line; fixing mattress in the bed of Bhimber Diversion; and petty works in connection with improvements at Mangla.

3. Expenditure of Rs. 418,781 was incurred on the maintenance and watching of canal banks, strengthening weak reaches, maintenance of buildings, Canal drains and plantation, protection downstream of Suketar II and Jabba level crossings, and revetment of the canal in front of the Mangla Regulator.

4. The following table compares the figures of rainfall with the average of the last seven years :—
Nature of Seasons and state of Demand
and Supply.
Kharif, 1916.
Rabi, 1916-17.

Station.					1916-17.	Average.
					Inches.	Inches.
Mangla	...	...	...	..	39.05	24.30
Pauranwala	...	...	...	...	35.00	12.10
Dinga	...	...	...	...	29.12	15.18
Kirariwala	...	...	...	...	28.10	9.30
Mand	...	...	...	...	20.65	7.40

There was heavy rainfall during *kharif* but no winter rains.

This was the first year of irrigation from this canal. The canal supply reached five-eighths of its maximum discharge during the year. A large new canal with high embankments requires a cautious increase of supply. With small periodical increments the formation of berms kept pace with the increase in supply and strengthened the banks.

This year was also the first during which the waters of three rivers (Jhelum, Chenab and Ravi) were distributed amongst the connected canals (Upper Jhelum, Lower Jhelum, Upper Chenab, Lower Chenab and Lower Bari Doab Canals) by rotational turns. The rotation programme was arranged by Chief Engineer after consultation with the Superintending Engineers of the canals concerned.

Area irrigated.
Kharif, 1916.
Rabi, 1916-17.

5. The irrigation effected was :—

	AREA IRRIGATED.			AREA ASSESSED.		
	<i>Kharif</i> .	<i>Rabi</i>	Total.	<i>Kharif</i> .	<i>Rabi</i> .	Total.
Main Line ...	13,699	19,607	33,306	13,502	19,007	32,509
Gujrat Branch ...	28,714	55,585	84,299	28,510	53,172	81,682
Total ...	42,413	75,192	117,605	42,012	72,179	114,191

The development of irrigation has not been as rapid as was anticipated in the Project forecast. It was expected that an area of 245,000 acres would be irrigated in 1916-17, but this expectation was not realized chiefly because irrigation commenced a year later than was anticipated. The heavy rainfall during *kharif* and an abnormally low river during *rabi* which necessitated long closures on new channels due to the introduction of rotational canal turns also contributed towards the failure to reach the forecast.

6. The gross income from all sources amounted to Rs. 83,631 and the working expenses to Rs. 6,40,795, resulting in a loss of Rs. 5,57,164 or 1.27 per cent. on the capital invested. This is attributable to the fact that this was the first irrigation year on this canal and the water rates were collected for *kharif* crop only. The working expenses were also heavy and this was to be expected on the new canal which needed larger expenditure on staunching and consolidating the banks of the canals and its distributives in the early days of irrigation in order to admit of the required supply of water being run without causing any damage to banks. It should be noted, however, that the Upper Jhelum Canal is part of the triple canals and that the expenditure incurred on it is mostly on behalf of the other two units and therefore the percentage of profit based on local income, working expenses and capital expenditure is not a fair indication of the utility of the Upper Jhelum Canal.

7 (a) Most of the tramway material made available for sale or transfer, due to completion of works, was sent to Mesopotamia and a fair proportion of surplus plant was also disposed of during the year.

(b) Special arrangements made for dealing with the timber traffic down the Jhelum river enabled the raftsmen to get all their timber down, in spite of the abnormally low river, and in all some 127,000 sleepers were taken out at Chaugar and removed later by the Canal Railway.

(c) The names of the Divisions on this Canal were changed from I, III, IV and V to Mawla, Jhelum, Phalia and Gujrat Divisions, respectively.

LOWER JHELM CANAL.

(SUPERINTENDING ENGINEER—MR. W. P. SANGSTER, C.I.E.)

1. The expenditure (direct and indirect) amounted to Rs. 27,399, but the recovery of Rs. 2,140 from cultivators on account of acreage rate, and a credit of Rs. 31,706 under the suspense account (stock issues to works) and receipts of Rs. 22,147 on capital account, reduced it to a minus figure of Rs. 32,594. This brought the total outlay to the end of the year to Rs. 1,59,33,168. The expenditure was incurred chiefly on Superintending Engineer's office and quarters at Sargolha, and the remodelling of the Mithalak distributary.

2. Expenditure amounting to Rs. 72,463 was incurred chiefly on constructing a combined water-course for the Civil Station and the Government Engineering School at Rasul; remodelling two bays of the Head Regulator at Rasul; obtaining gates for the Mona Distributary; providing caissons for remodelling the Head Regulator; and raising a girder skew bridge on the North-Western Railway over the Mithalak distributary.

3. Expenditure to the extent of Rs. 2,91,635 was incurred on the annual maintenance of channels, masonry works, buildings; and on repairs to Bay No. 7 downstream floor and talus of Bay No. 2, Rasul Weir; filling up scour holes below the undersluices; stone filling at Groynes Nos. 6 and 7 upstream of the weir; levelling 30 feet of the stone berm below the weir; and repairs to Groyne No. 7 upstream of Rasul Weir.

Nature of Seasons and state of Demand
and Supply:
Kharif, 1916.
Rabi, 1916-17.

4. The rainfall during the year was as follows as compared with that of the previous three years :—

District.	Season.	YEAR.			
		1913-14.	1914-15.	1915-16.	1916-17.
Shahpur ...	<i>Kharif</i> ...	12.84	17.02	3.96	14.36
	<i>Rabi</i> ...	8.23	4.22	0.56	1.78
Total ...	...	16.07	21.24	4.52	16.14
Jhang ...	<i>Kharif</i> ...	13.56	12.40	1.98	9.77
	<i>Rabi</i> ...	3.09	2.33	0.36	0.85
Total ...	...	16.75	16.33	2.34	10.65

The rainfall was above the average during *kharif* and below the average during the *rabi*. No rain fell between first week in October and last week in March, except a small quantity near the head of the canal. On April 10th there occurred at the tail of the canal, a hailstorm of exceptional severity which affected about 20 small villages, necessitating the giving of half remissions to above 1,100 acres. During *kharif* canal water was ample and there were no insect pests or other calamities. The area sown was above the normal and the yield good. The area remitted was unusually low. During *rabi* rotational closures were started practically for the first time on this canal and the people felt them keenly.

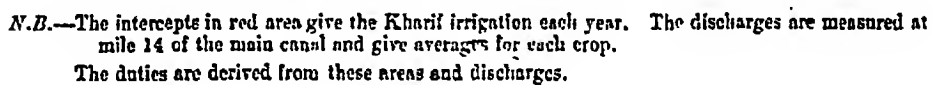
The shortage in supply due to low river did not begin to make itself felt until late in December, and the areas sown with wheat, barley, and *toria* were well up to normal. Demand during the last three months of the *rabi* season, when the available supply was persistently low, was intensely keen. Second waterings were still being given after 15th March to some fields.

5. The canal was closed for 15 days during *kharif* owing to slackness of demand for water and special repairs to works. The area remitted was 6,371 acres including 2,106 acres remitted under Tenancy Rules. About half of this was due to short supply in *rabi* and the balance to other causes.

6. The areas irrigated and assessed compare as follows with the corresponding figures for the average of the preceding triennium :—

District.	AVERAGE OF THE 3 YEARS ENDING 1915-16.			1916-17.		
	<i>Kharif.</i>	<i>Rabi.</i>	Total.	<i>Kharif.</i>	<i>Rabi.</i>	Total.
<i>Irrigated areas.</i>						
Gujrat ...	4,363	8,870	13,103	4,067	7,783	11,850
Shahpur ...	189,814	494,934	634,748	191,563	469,871	664,134
Jhang ...	39,888	88,600	128,488	41,307	87,110	128,477
Total ...	234,065	592,334	826,399	239,997	564,764	804,761
<i>Assessed areas.</i>						
Gujrat ...	4,283	8,781	13,064	4,053	7,705	11,816
Shahpur ...	181,935	487,830	669,735	192,113	465,440	657,553
Jhang ...	35,947	86,136	122,143	41,247	85,666	126,913
Total ...	222,165	582,807	804,972	237,413	558,871	796,284

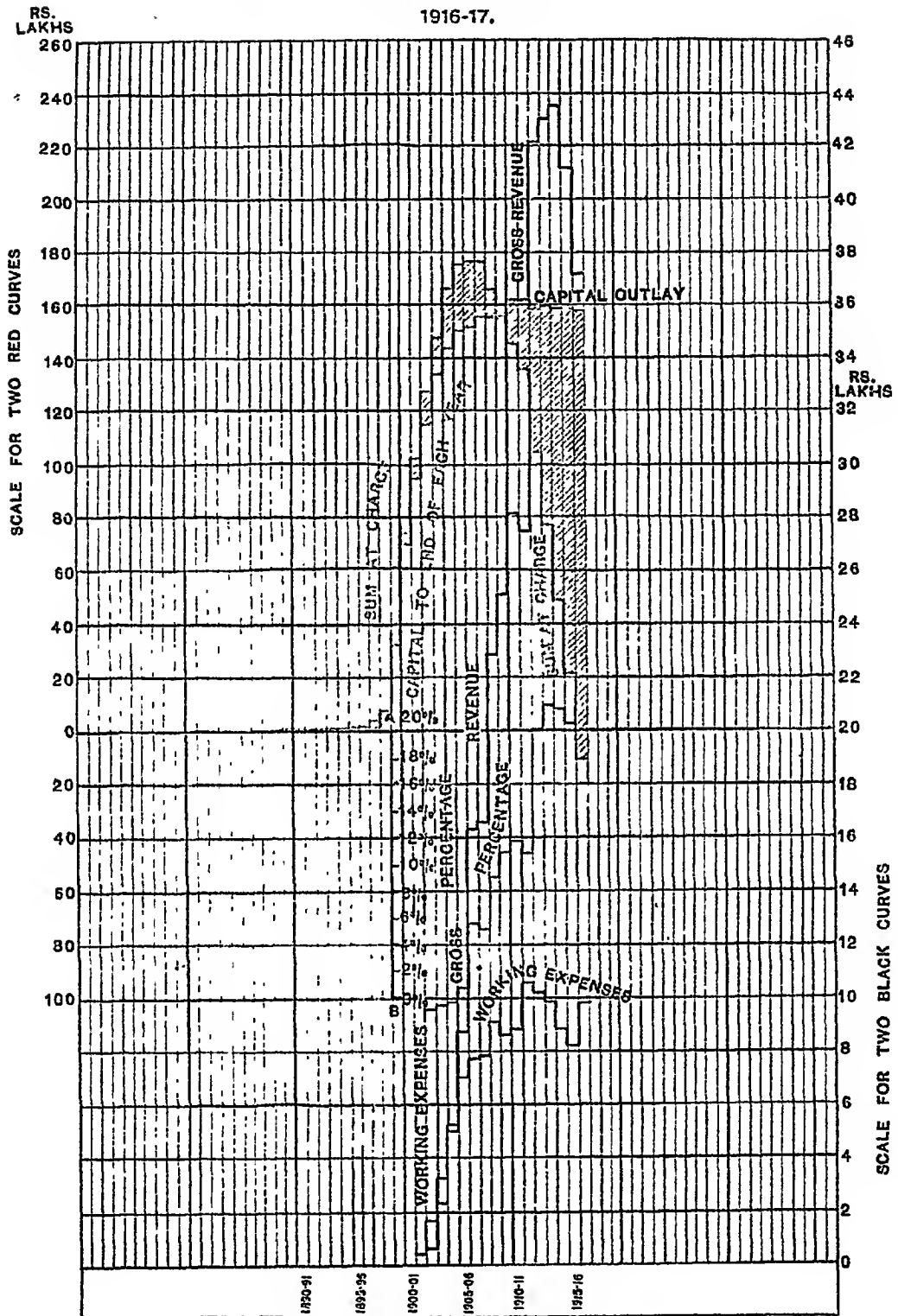
WORKING RECORD.
1916-17.



LOWER JHELM CANAL.

FINANCIAL RECORD.

1916-17.



N.B.—The intercepts in the red area show arrears of interest which, added to the capital, give the sum at charge.

The intercepts in the blue area give the accumulated profits.

The scheme was commenced in earnest in 1898-99 and opened in 1901. Until 1905-06 the canal did not pay any interest on its capital cost this being due to free remissions of water rates on new irrigation.

The increase in area irrigated in *kharij* was due to an ample supply of water assisted by good rainfall. The reason for the decrease in *rabi* was the unprecedented drought and abnormally low rivers which necessitated rotational working of five canal systems on a definite programme of an experimental type. Out of the total area of 804,761 acres irrigated 405,920 acres were in proprietary villages and 398,841 acres in colony villages.

7. The gross receipts (direct and indirect) amounted to Rs. 47,38,593, the working expenses to Rs. 9,83,962 and the net revenue to Rs. 37,54,631, giving a return of 23·57 per cent. on the capital outlay to the end of the year. This return was about 8 per cent. more than that of the preceding year due to—

Financial results based on collections :
Rabi, 1915-16.
Kharij, 1916.

- (a) a decrease in the capital outlay by about Rs. 33,000 as explained in paragraph 1 above.
- (b) increase in the area irrigated during *kharij* 1916 and *rabi* 1915-16, revenue on which was collected during the year.
- (c) very small area having been affected by the failure of crops and the consequent grant of very low remissions.

The figures for the year 1916-17 and the average of the preceding three years are compared below :—

Item.					Average triennium, 1913—16.	1916-17.
Direct receipts.					Rs.	Rs.
Occupiers' rates	...	...	...	...	26,74,820	29,09,746 (a)
Miscellaneous receipts	...	...	...	...	61,801	64,164 (b)
Total direct receipts	...	...	...	...	27,36,621	29,73,910
Indirect receipts	...	...	...	...	15,27,350	17,64,683 (c)
Total direct and indirect	...	...	...	...	42,63,971	47,38,593
Charges to revenue	...	...	...	...	8,94,993	9,83,962 (d)
Net revenue	...	...	...	...	33,68,978	37,54,631
Percentage on capital	...	...	...	...	21·13	23·57
Net revenue less interest	...	...	...	...	28,30,722	32,41,710
Percentage on capital	...	...	...	...	17·76	20·34

- (a) The increase is due to causes explained in paragraphs 6 and 7 above. The average rate per acre assessed works out to Rs. 3·65 against Rs. 3·32 for the previous triennium.
- (b) The increase was due to larger realizations from water power and miscellaneous other receipts.
- (c) The increase follows the increase under (a) above.
- (d) The working expenses were about one lakh more than the average of the last three years. The cause of this increased expenditure is being enquired into. The rate per acre of area assessed was 1·24 against 1·11 in the preceding triennium.

8. The agricultural and other conditions of the year have been described in paragraph 4 above. The introduction for the first time of the system of rotational closures lends a special interest to the year under review. The relative performances of the last five *rabi* seasons may be compared by the following values of Δ in the Sargodha Division :—

					Δ
<i>Rabi</i> , 1912-13	...	...	...	...	2·05
" 1913-14	...	...	...	...	1·82
" 1914-15	...	...	...	...	1·85
" 1915-16	...	...	...	...	1·96
" 1916-17	...	...	...	...	1·76

The fact that Δ for the last *rabi* is the lowest is significant, when it is remembered that there was a complete failure of the winter rains, and that the falling off in area sown was in such crops as gram, senji and maina which require less water than the staple crops. Enquiry showed that the wheat outturn was, if anything, above the normal. The *rabi* delta of 1916-17 indicates less waste of water than in previous years, but it is still high.

(b) Proposals for the remodelling of the entire canal system are being framed by the Special Project Division created for the purpose. Remodelling work was actually begun on the Mithalak distributary. The introduction of a notched fall in the canal in place of the old raised crest below the off-take of this channel appears to have had a beneficial effect upon its persistent tendency to silt. At the time of writing, the channel is drawing, gauge for gauge, the same supply as after it was silt-cleared last November, and since then no silt clearance has been found necessary.

(c) Irrigation on the Sulki Branch is steadily improving. This branch serves the Ara Assessment Circle, the land of which does not lend itself easily to canal irrigation. This is due to a very hard crust of surface soil which forms after it has been watered.

UPPER SUTLEJ DIVISION INUNDATION CANALS.

(SUPERINTENDING ENGINEER—MR. F. W. K. YEOMAN.)

1. The expenditure amounted to Rs. 1,465 and was incurred mainly on constructing subordinates rest-houses at Bunga Hayat, Ladhewal and Kalewal.

Capital accounts :
Kharif 1916
Rabi 1916-17.

2. Expenditure of Rs. 13,928 was incurred chiefly on remodelling the head of Pakpattan and Faridpur distributaries ; widening the platform and raising the crest of the Hujra and Shah Yaka and Dhulliana Regulators ; widening, regrading and extending the Dhingshah distributary ; and the reduction of outlets on the Wanawala distributary.

Extension and improvement.

3. Expenditure incurred was Rs. 2,57,504 which, in addition to ordinary maintenance and silt clearance of channels, was incurred on the following works :—Excavating the Nijabat head reach of the Sohag Canal so as to make it independent of the Khizra reserve head of the Khanwah Canal and the Khizra head reach of the Lower Sohag Canal ; regrading and improving the Atari and Haveli distributaries ; and excavating the three diversion cuts in the head reach of the Katora Canal, thereby shortening its length by about 2 miles.

Maintenance and repairs.

4. The gross income amounted to Rs. 6,08,794 and working expenses to Rs. 4,41,186, showing a net revenue of Rs. 1,67,396 or 9.19 per cent. on the capital invested. The previous percentage was 18.50.

Financial results based on collections :
Rabi 1915-16.
Kharif 1916.

5. The following table compares the irrigation of this year with the averages of the two previous triennia :—

Crop.	AVERAGE OF THREE YEARS ENDING				1916-17.	
	1912-13.		1915-16.		Gross irrigated.	Area assessed.
	Gross irrigated.	Area assessed.	Gross irrigated.	Area assessed.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Kharif ...	160,404	122,092	107,045	166,378	162,560	142,355
Rabi ...	143,142	143,142	166,193	166,193	160,501	160,591
Total ...	293,546	265,234	333,238	332,571	313,151	302,947

The net area assessed exceeded by 36,713 acres, the average of the triennium ending 1912-13, and was less by 19,624 acres than the average of the three

years ending 1915-16, which included the record year of 1914-15. This is quite satisfactory, taking into consideration the fact that the river remained abnormally low throughout the month of May, thereby delaying the date of opening of the canals by more than two weeks.

6. (a) The following table shows the dates of opening and closing of the canals together with the corresponding dates of the previous year :—

Name of canal.	DATE OF OPENING.		DATE OF CLOSING.		NUMBER OF DAYS CANAL WAS IN FLOW.		REMARKS.
	1918.	1915.	1918.	1915.	1916.	1915	
Katora	Forenoon, 29-5-16.	Forenoon, 16-5-15.	Forenoon, 9-11-16.	Afternoon, 16-10-15.	164	160	
Khanwah	Forenoon, 30-5-16.	Forenoon, 11-5-15.	Afternoon, 30-10-16	Afternoon, 25-10-15.	154	109	
Upper Sohag	Forenoon, 29-5-16.	Forenoon, 9-5-15.	Afternoon, 30-10-16.	Afternoon, 14-10-15.	155	150	
Lower Sohag	Afternoon, 31-5-16.	Forenoon, 10-5-15.	Afternoon, 24-9-16	Afternoon, 11-10-15.	110	155	

(b) During this year also, as in the previous year, several important works of improvement calculated to increase the area of irrigation were introduced. The river left both the heads of the Lower Sohag Canal high and dry after a flood in the month of August. Steps were taken to excavate the Khinwa head reach which proved to be a great success, as it has increased the supply in the canal for 1917-18 by at least 50 per cent. In addition, a diversion cut was excavated at a cost of Rs. 2,500 to induce the river to adopt a course favourable for the two heads which were left stranded and this cut has also worked quite satisfactorily so far. A further improvement was the reduction of outlets on the Wanawala distributary which enable the tail reach to get its proper share of the water, which it had not done for several years. Necessary steps for giving sufficient supplies of water to the tails of several other channels also were successfully taken during the year.

SIDHNAI CANALS (INCLUDING THE KORANGA, FAZIL SHAH AND ABDUL HAKIM SUBSIDIARY CANALS).

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY.)

1. Expenditure of Rs. 4,529 (direct and indirect) was incurred on stock transactions.

Capital account:
Kharif 1916.
Rabi 1916-17.

Settler's account.—The sum of Rs. 31-12-0 shown as received during the year 1915-16 on account of repairs to bridges on Sidhnai Canal has further increased to Rs. 236-14-6 during the year. Recoveries are being made by the Deputy Commissioner, Multan.

2. The expenditure was Rs. 11,006 against Rs. 10,516 of the previous year, and was incurred on remodelling Riazabad Minor, Lalera Minor, Chauparhatta distributary and Vinoi distributary, and constructing subordinates' rest-house at Sidhnai, Sub-Overscer's quarters at Jodhpur and other works of a petty nature.

3. The expenditure amounted to Rs. 51,873 against Rs. 43,062 of the preceding year, and was incurred on the ordinary annual repairs, silt clearance and strengthening of canal and distributaries.

Nature of seasons and state of demand and supply:
Kharif 1916.
Rabi 1916-17.

4. The total rainfall at Kabirwala was 6.95 inches (5.35 inches in *kharif* and 1.60 inches in *rabi*) against an average of 6.26 inches.

The Ravi rose very late and water did not enter the canal till the 23rd June. The supply was low until the 30th June. Throughout July irrigation was much interrupted by frequent occurrence of floods, which necessitated the closing off of the canals to exclude silt. The supply was good in September and October, and fair in November, giving the *rabi* a good start.

The very late arrival of the water is noteworthy, but it is useful to remember that it was later in 1908, and in 1898 water arrived on 21st July. In these two years the late opening cannot be attributed to the influence of the Triple Canals.

There was no water in the river after 12th December 1916, but by this date about one-eighth of the *rabi* area was estimated to have had a second watering.

5. The following table shows the irrigation effected on the whole system as compared with the averages of the two previous triennia:—

Crops.			AVERAGES OF THREE YEARS ENDING		1915-16.	1916-17.
			1912-13.	1915-16.		
			Acres.	Acres.	Acres.	Acres.
Kharif	...	...	111,574	127,386	117,999	114,933
Rabi	...	...	138,526	153,119	152,151	183,623
Total	...	...	250,100	280,505	270,150	298,556

The percentage of failed crops was 13·96 in *kharif* and 17·7 in *rabi* against 16·46 in *kharif* and 18·06 in *rabi* of the preceding year. This is not unsatisfactory in view of the late arrival of water and absence of winter rains during the *rabi* maturing period.

6. The total income from all sources amounted to Rs. 5,89,749 against Rs. 8,32,779 of the preceding year. Working expenses amounted to Rs. 1,59,012 against Rs. 1,46,592 in 1915-16. The net income amounted to Rs. 4,30,737, or 32·25 per cent. on the capital outlay, against Rs. 6,86,187, or 51·5 per cent. in the preceding year. The decrease is due to the *rabi* area of 1915-16, assessments on which were realized in the year under review being far short of that of the year 1914-15 owing to deficiency in river supply.

The uncollected balance of the assessment of occupiers' rates amounted to Rs. 3,128.

7. The total area irrigated is the second highest on record, and the year may, therefore, be said to have been a successful one.

The question of the distribution of Ravi water between the Lower Bari Doab and the Sidhnai Canals has been satisfactorily settled.

During the course of the winter monthly discharge observations of the river Chenab at Haveli and Shershah were made with the object of putting the data for the Haveli Project on a firmer footing.

The Executive Engineer has brought to notice the very wasteful system of flooding for the ensuing *rabi* crops, which is in vogue on the canal. The compartment or *khal kiari* rules are almost universally ignored. Areas of 3 or 4 acres, consisting of 4 or 5 fields, are irrigated by leading the water through one field into the other, the depth of watering being probably 6 to 8 inches. He calculates that the *rabi* area might have been $1\frac{1}{2}$ times greater than it was, or assuming that the available area was all irrigated, about two-thirds of the whole might have received a second watering instead of only one-eighth.

No new works of any magnitude are contemplated.

INDUS INUNDATION CANALS.

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY.)

1. The expenditure amounted to Rs. 9,045 compared with Rs. 1,51,024 during the preceding year, and was incurred on lowering the bed of the Manka Canal and on the scheme for giving a perennial supply of water for irrigation to the Dera Ghazi Khan Municipality. The former work is complete and the latter practically so.

Capital account:
Kharif 1916,
Rabi 1916-17.

2. Rupees 1,15,320 were spent compared with Rs. 1,17,195 during the preceding year. The following were the more important works in progress:—Constructing a second ring bund behind the Kotla Bund; new head reach, Fazalwah Canal; Chabri flood embankment; new head reach, Kasturi Canal; Dhan Sikhani flood embankment; a groyne across the Droman Creek; Kotla Ring Bund No. 3 and Sahiban and Chibri Ring Bunds; and an extension of the Panjtanwala groyne for increasing the supply of water to Nur Dhundi and Gamun Canals.

Extensions and improvements

3. The expenditure amounted to Rs. 1,37,316 against Rs. 1,95,703 in the previous year, and was incurred on ordinary annual maintenance and repairs, silt clearance of canals, strengthening of certain flood embankments and other miscellaneous works.

Maintenance and repairs.

4. The average rainfall during *kharif* was 5.71 inches and during *rabi* 0.29 inches against an average of 3.77 inches and 1.66 inches respectively. The river Indus was late in rising, but remained fairly normal after the first week in June. Demand was keen. Some damage to crops resulted from severe frost during November and paucity of rainfall during the *rabi* season.

Nature of seasons and state of demand and supply:
Kharif 1916
Rabi 1916-17

The following statement shows the period during which canals were in flow:—

Name of canal.	Dates of		Number of days canal was in flow.
	Opening.	Closing.	
Massuwah	3rd June 1916 ..	10th September 1916.	99
Fazalwah	16th May 1916	29th October 1916.	166
Manka	25th March 1916	23rd October 1916.	213
Shoria	1st May 1916 ...	19th October 1916.	166
Kasturi	17th April 1916	24th September 1916.	148
Dhingana	9th April 1916 ..	10th October 1916.	171
Chibri	27th May 1916...	11th October 1916.	130
Sahiban	20th May 1916...	11th October 1916.	121
Gamun	15th May 1916...	29th September 1916.	117
Nur Dhundi.	3rd May 1916 ...	27th March 1917	328
Dhundi Kutab	27th April 1916	22nd October 1916	175
Kadma	14th May 1916...	1st November 1916.	171

The Manka Canal was opened early with a low supply to enable irrigation in the Civil Station of Dera Ghazi Khan to be carried out. The Nur Dhundi Canal flowed almost the whole winter with a small but valuable supply.

5. The following table compares the area assessed with the average areas of the previous two triennia :—

Area irrigated :
Kharif 1916.
Rabi 1916-17.

Name of crop.					AVERAGE OF THREE YEARS ENDING		1916-17.
					1912-13.	1915-16.	
					Acres.	Acres.	Acres.
Kharif	...	...	...	...	132,553	115,205	140,470
Rabi	...	...	...	...	80,217	68,948	67,910
Total					212,770	179,153	208,380

The gross and net areas irrigated during *kharif* were 179,941 and 140,470, respectively, against 138,124 and 102,147 acres of the preceding year.

During *rabi* the gross and net areas irrigated were 85,217 and 67,910 against 97,517 and 79,882, the decrease being due to earlier fall in the Indus.

6. The total income from all sources was Rs. 5,28,309 against Rs. 4,37,175 in 1915-16, and the total expenditure under all heads Rs. 3,98,604 against Rs. 4,41,584. The net profit was, therefore, Rs. 1,29,705 against a deficit of Rs. 4,409 in the preceding year, and an average profit of Rs. 43,786 in the previous triennium.

The uncollected balance of the assessment of occupier's rate was Rs. 43,271.

The percentage on the capital outlay during the year was 4.35.

7. The results of the year's operations were, on the whole, satisfactory, the gross area irrigated being the third largest on record

The river continued to give trouble at the head of the Dhundi Kutab Canal and the head regulator was engulfed. Erosion here has been very persistent for many years and so long as the westward drift continues it must cause much anxiety and expense.

Some erosion took place at the head of the Manka Canal. This canal also suffered from breaching due to hill torrents.

The principal works of importance under contemplation are :—

- Amalgamating Sohan Branch of Nur Dhundi Canal with Gamun Canal in order to improve irrigation on both.
- Constructing the Aquilpur Minor. This work has been sanctioned, but is held in abeyance for want of funds.
- Constructing new head reach for the Dhundi Kutab Canal.

Minor Irrigation Works.

SHAHPUR IMPERIAL (INUNDATION) CANALS.

(SUPERINTENDING ENGINEER—MR. W. P. SANGSTER, C.I.E.)

Capital account :
Kharif 1916.
Rabi 1916-17.

Extensions and improvements.

Maintenance and repairs.

1. No expenditure was incurred under this head.

2. No expenditure was incurred during the year.

3. Expenditure to the extent of Rs. 18,939 as against Rs. 25,157 in the previous year was incurred on silt clearance and maintenance and repairs.

4. The rainfall was 20·08 inches against 3·53 inches in the previous year. During *kharif* the rainfall was 18·66 inches and during *rabi* 1·42 inches. Of the *kharif* rainfall there was 0·15 inches in April, 0·68 inches in May, 2·95 inches in June, 5·34 inches in July, 8·26 inches in August, and 1·28 inches in September. Of the *rabi* rainfall there was 0·92 inches in October, 0·06 inches in December 1916, and 0·44 inches in March 1917; the months of November 1916, January and February 1917 were dry.

The canals were opened during April 1916 and were closed early in September 1916. Although the supply in the river was low, yet the canals were running satisfactorily.

On the 26th April 1917 there was a hailstorm which spoiled some crops, but the loss was not as much as it was in the previous two years. A total area of 477 acres was remitted.

5. The irrigation of the year compares as follows with the averages of the two previous triennia :—

Season.					Average for the three years ending		Actual for 1916-17.
					1912-13.	1915-16.	
					Acres.	Acres.	Acres.
Kharif	...	...	...	...	14,208	15,880	19,683
Rabi	...	...	...	...	18,238	23,420	27,086
Total					32,536	38,750	46,769

(a) The area successfully matured and assessed was 43,981 acres as against 34,458 acres, the average of the previous triennium. The increase is mostly due to the favourable condition of the river and timely rainfall during the *rabi* season.

(b) Revenue was remitted on 1,788 acres of which 1,581 acres were remitted on account of bad germination, 44 acres due to high supply causing flooding of fields, and 163 acres due to insects and blight.

6. The gross revenue realized amounted to Rs. 1,15,018 and working expenses to Rs. 47,175, leaving a net revenue of Rs. 67,843, which is equivalent to a return of 31·42 per cent. on Rs. 2,15,914, the capital outlay up to date.

Details compare as follows with the average for the preceding triennium :—

Details.					Average for the three years ending 1915-16.	Actual for 1916-17.
					Rs.	Rs.
Receipts, direct	...	...	...	...	80,905	80,343
Receipts, indirect	...	...	...	...	17,776	34,672
Total					1,08,681	1,15,018
Working expenses	....	...	...	...	52,686	47,175
Net revenue	...	...	...	...	56,015	67,843
Percentage of net revenue on capital	...	...	...	...	25·94	31·42

The increase is due to timely rainfall and favourable condition of the river.

General remarks.

7. The canals began and ceased to flow on the following dates :—

	Began to flow.	Ceased to flow.
Eastern Station Canal ...	16th April 1916 ...	20th September 1916. "
Western Station Canal ...	20th April 1916 ..	19th September 1916.
Sahiwal Canal ...	21th April 1916 ...	20th September 1916.

The return of 31.42 per cent. on the capital cost for the year under review against 22.68 per cent for the previous year, is more than satisfactory.

GHIAGGAR CANALS.

(SUPERINTENDING ENGINEER—MR. G. O. LAURIE.)

1. There was no expenditure under this head during the year. The capital outlay at the end of the year, therefore, remained the same as at end of the previous year, viz., Rs. 6,61,571,—Imperial, Rs. 3,76,129; Contribution, Rs. 2,85,442.

Capital account—
Kharif 1916
Rabi 1916-17

2. Expenditure was Rs. 2,632, i.e., Rs. 1,999 under "Imperial" and Rs. 633 under "Contribution," and was incurred on petty works of improvement.

Extensions and improvements

3. Expenditure was Rs. 6,936 under "Imperial" and Rs. 1,814 under "Contribution" as compared with Rs. 11,643 and Rs. 2,518, respectively, for the preceding year. The expenditure was normal.

Maintenance and repairs

4. (a) *Kharif* (1916).—There were light showers of rain during April, May and June, but these did not benefit sowings. The monsoon broke about the middle of July and was well distributed. There was good general rainfall in August and light showers during September. The heaviest falls recorded were 4.2 inches on 16th July at Kamrauli in Bikaner State, 4.5 inches at Otu on 6th August, and 2.4 inches at Mauju Khara on 14th September.

Nature of seasons and state of demand
and supply
Kharif 1916
Rabi 1916-17

The rainfall was considerably above the average of the previous 17 years.

Water first reached Otu Weir on the 18th June which was unusually early, but the supply was poor and the lake was not filled till 22nd July. The direct minors were opened on the 30th June, but the supply of water was not sufficient for opening the main canals till 20th July. The demand then was not keen owing to local rainfall. Later the supply was fairly good for the rest of the season.

(b) *Rabi*.—Supply for ploughing and sowing was good. There was little or no rain, except light showers, in October, January and March, and that little was insufficient for maturing the crop properly. The area cropped was large, but the outturn was poor in quantity.

(c) *Rainfall*.—The average rainfall of all stations for the year 1916-17 was :—

British	...	...	...	...	17.70 inches,
Bikaner	...	...	...	...	13.90 "

against British 3.15 inches and Bikaner 2.2 inches during 1915-16.

Water was escaped down the river from 23rd to 30th July, again on 5th, 7th to 20th, 24th to 27th August and 6th-7th September. The maximum escape was on 13th August, when the downstream gauge was 8.0 feet.

The Northern and Southern Canals ran for 66 and 67 days, respectively, during *kharij* and 26 days during *rabi* with average discharges of 725 and 234 cusecs, respectively.

5. The following table shows the area irrigated in British and Bikaner Territories during the last five years ending 1916-17. The area in British Territory includes area assessed by the Civil Department :—

Crop.	1912-13.			1913-14.			1914-15.			1915-16.			1916-17.		
	British.	Bikaner.	Total.	British.	Bikaner.	Total.	British.	Bikaner.	Total.	British.	Bikaner.	Total.	British.	Bikaner.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Kharij	23,835	2,295	26,090	9,690	5,115	14,805	9,330	1,663	10,993	4,218	12	4,230	10,737	3,254	13,991
Rabi	17,527	4,014	21,541	3,035	1,720	4,755	15,602	6,403	22,005	17,783	3,753	21,536	14,690	8,786	23,476
Total	41,362	7,179	48,541	12,725	6,835	19,560	24,932	8,066	32,998	22,001	3,765	25,766	25,427	12,040	37,467
Total number of days canal was in flow.	Northern Ghaggar Canals...		46	73			102			50			92		
	Southern Ghaggar Canals ..		32	80			100			56			93		

The area irrigated was the highest on record. The figures for 1913-14 to 1916-17 do not include the area under *palewar* (watered but not sown and on which no water-rates are charged), whereas the figures for the previous years include *palewar*. The *palewar* area included in 1912-13 was 23,098 acres, so that the true area irrigated that year was 25,433 acres and not 48,531 acres as shown in the table.

The land under fluctuating assessment is not subject to water-rates, but the canals receive a credit for any fluctuating revenue in excess of an average of Rs. 37,000 per annum.

The amount of occupier's rate assessed was Rs. 4,330 in *kharij* and Rs. 18,245 in *rabi* and the rate per acre assessed works out to 4.29 and 2.5, respectively.

6. *British*.—The operation of the year resulted in a loss of Rs. 8,630 which is equivalent to 2.29 per cent. on the capital outlay compared with a loss of Rs. 18,473 equivalent to 4.91 per cent. in the previous year. So long as the canals receive no revenue for the greater part of the irrigation which they effect, they cannot be expected to be remunerative.

7. The result of the year's working would have been very satisfactory if all land paid water-rates. Although the land-owners of the old inundation area have no longer the expense of maintaining their old channels, their former bunds and the high embankments round their fields, they nevertheless pay no water-rates and their fluctuating crop rates are credited to the Civil Department and not to the canals.

The canals form a very useful public work, but, owing to the method of crediting the revenue indicated above, they appear yearly as irrigation propositions worked at a loss at least as regards Imperial expenditure and revenue.

The canals were in flow for 93 days against 53 days in 1915-16 and 120 days in 1914-15.

The area remitted in British Territory was 813 acres in *Kharif* and 784 acres in *Rabi*. The approximate value of crops matured on the Ghaggar Canal in British Territory amounted to Rs. 8,88,547 against Rs. 5,67,751 in the previous year.

The principal crops grown are wheat and rice.

(b) *Nature and scope of contemplated new works and progress made on the preparation of new projects*—The estimate for raising the reservoir level by 3 feet so as to get a more continuous supply of water for the canals, which was originally submitted in 1912, was again submitted in a slightly revised form after more careful study of the subject. It was, however, considered best to take no further action on the subject for the present as it is possible that the northern canal area may hereafter form part of the Sirhind Canal under the Bakra Dam Project, and in that case the existing reservoir storage capacity would be sufficient for the Southern Ghaggar Canal.

(c) *Working of the Ghaggar Canals in the Bikaner State*.—The indents made by the State authorities were complied with in full whenever sufficient water was available, but the State authorities often refused to take water to the extent available. The largely improved area, however, irrigated in Bikaner State seems to show that the channels there must be getting into better condition.

The following details of irrigation have been supplied by the State:—

Canals.				1916-17.			1915-16.		
				Kharif.	Rabi.	Total.	Kharif.	Rabi.	Total.
				Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Northern Canal	...	...	...	2,403	5,979	8,382	12	1,999	2,011
Southern Canal	...	...	...	851	2,807	3,658	Nil	1,157	1,157
Total	...	...	...	3,254	8,786	12,040	12	3,156	3,168
Flow	...	...	...	3,251	8,786	12,010	12	3,156	3,168
Lift	...	...	...	Nil	Nil	Nil	Nil	Nil	Nil
Total as above	...	...	...	3,254	8,786	12,040	12	3,156	3,168

The following table shows the working of the canals as reported by the State : -

Particulars.					1915-16.	1916-17.
<i>Receipts.</i>					Rs.	Rs.
Water-rate	...	...	...	...	8,408	27,616
Miscellaneous	...	...	...	...	154	237
Total					8,562	27,953
<i>Working expenses.</i>						
Establishment	...	...	...	...	2,013	2,756
Other expenses	...	...	...	...	8,908	2,269
Total					11,821	5,025
Profit or loss (net)	...	...	...	...	- 3,259	+ 22,928

It will thus be seen that the Bikaner State got a profit of 8.03 per cent. on the working of the canals for the year under review, the contribution capital account standing at Rs. 2,85,442.

LOWER SUTLEJ CANALS DIVISION.

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY.)

Capital account :
Kharif 1916.
Rabi 1916-17.

1. These canals are classified under 43—Minor Works and Navigation for which no Capital Account is kept.

2. The expenditure amounted to Rs. 45,922 against Rs. 54,227 in the preceding year and Rs. 34,441 the average of the previous triennium. It was chiefly incurred on constructing diversions of the Muhammadwah Canal and a masonry toe wall below the Islam Escape, Muilsai Canal, and making additions and alterations to Islam inspection house, Muilsai Canal.

3. Expenditure amounted to Rs. 86,519 against Rs. 1,11,535 in the preceding year and Rs. 1,27,779 the average of the previous triennium, and was incurred on ordinary maintenance of canals, etc.

4. The total rainfall at Lodhran was 10.97 inches against an average of 4.07 inches. No rain fell during the *rabi*. The demand was keen throughout. The Sutlej was late in rising, and indigo and other early crops suffered, but canal supplies were good during the latter part of the *kharif* season and continued well into the *rabi*.

The following statement gives the dates of opening and closing of the canals during the year :—

Name of canal.	DAYS OF		Number of days canal was in flow.
	Opening.	Closing.	
Hajiwah	29th May 1916	4th November 1916	157
Muilsai	4th June 1916	20th December 1916	187
Muhammadwah	18th May 1916	22nd November 1916	162
Bahawalwah Lodhran	18th June 1916	21st October 1916	142

5. The following table compares the areas irrigated and matured with the average of the preceding triennium :—

Area irrigated
Kharif 191
Rabi 1916-17.

Season.	Canal.	AVERAGE FOR THREE YEARS ENDING 1915-16.		1916-17.	
		Irrigated.	Matured.	Irrigated.	Matured.
Kharif	Hajiwah ...	16,390	13,375	14,072	11,913
	Sutlej Series ...	125,681	107,921	125,001	115,279
	Total ...	142,071	121,299	149,073	127,192
Rabi	Hajiwah ...	25,265	23,978	30,031	24,172
	Sutlej Series ...	146,250	139,896	184,777	169,249
	Total ..	171,515	163,874	214,811	193,421
GRAND TOTAL		313,586	284,973	363,884	320,613

The total area which failed to mature was 43,271 (*viz.*, 21,831 acres during kharif and 21,390 during rabi) against 41,751 acres during the preceding year. The increase is mainly attributable to lack of rainfall during the *rabi* maturing period.

6. The total income from all sources was Rs. 6,26,728 against Rs. 6,21,610 in 1915-16, and the total expenditure Rs. 2,39,727 against Rs. 2,85,454 in the preceding year. The net revenue amounted to Rs. 3,87,001 against Rs. 3,36,156 for the year 1915-16, and an average of Rs. 3,20,796 in the previous triennium.

Financial results based on collection :
Rabi 1915-16,
Kharif 1916.

The uncollected balance of the occupier's rate amounted to Rs. 67 only.

7. The gross area irrigated and the area matured are the second highest on record. The result of the year's operations may, therefore, be said to be, on the whole, very satisfactory.

General remarks.

The amalgamation system of running channels in Lodhran Sub-Division is now complete, and remodelling with the object of improving distribution is in hand. The width of some of the larger channels is being increased to enable them to carry correct supplies.

A masonry crossing of 2,000 cu-secs capacity was constructed at the expense of the Southern Punjab Railway over the Hajiwah Canal to provide an outfall for river spill partially blocked by the Sutlej Valley Railway.

As the result of river erosion the Muhammadwah Canal was penetrated in October at a point about 8 miles from its off-take from the river, necessitating the construction of a diversion.

CHENAB INUNDATION CANALS.

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY.)

Capital account :
Kharif 1916.
Rabi 1916-17.

1. There is no capital account for these canals. They are classified under 43—Minor Works and Navigation.

2. The expenditure was Rs. 23,706 against Rs. 11,214 of the year (1915-16). This was incurred mainly on excavating new heads for the Wali Muhammad and Matithal Canals, remodelling Qutabpur Minor, and fixing iron pipe outlets in Lower Bakhtuwah with its branches.

Extensions and improvements

3. Expenditure of Rs. 78,023 against Rs. 1,05,894 of the preceding year, was incurred on ordinary silt clearance of canals, repairing breaches, and strengthening banks.

4. The rainfall during *khariif* 1916 was 3.89 inches in Tahsil Multan and 6.65 inches in Tahsil Shujabad. It did a much good to the *khariif* crops and supplemented canal irrigation. The rainfall during *rabi* was 2.53 inches in Multan and 0.20 inches in Shujabad.

The river Chenab remained abnormally low till the 1st week of June and consequently the opening of canals was late. It, however, rose rapidly after this date and gave good supplies until the end of August.

The statement below gives the dates of opening and closing:—

Name of canal.	DATES OF		Number of days canal was in flow.
	Opening.	Closing.	
Matithal... ..	11th June 1916	25th September 1916	100
Daurana Langana	10th June 1916	24th September 1916	88
Wali Muhammad	5th June 1916	23rd September 1916	88
Sikanderabad	24th May 1916	16th October 1916	138
Gajjuhatta	3rd June 1916	13th October 1916	111
Balochanwah	12th June 1916	26th September 1916	97

The head of the Matithal Canal silted up during floods, which resulted in its partial failure. The Wali Muhammad and its main branch, the Daurana Langana, had to be run in rotation for some time owing to silting up of the head. The Sikanderabad and Gajjuhatta systems worked exceptionally well, and the Bilochanwah had a comparatively good supply.

Area irrigated :
Khariif 1916.
Rabi 1916-17.

5. The following table compares the areas irrigated with the averages of previous triennia:—

Crops.	AVERAGES OF THREE YEARS ENDING		1915-16.	1916-17.
	1912-13.	1915-16.		
	Acres.	Acres.	Acres.	Acres.
Khariif	101,141	95,030	84,107	93,537
Rabi	80,469	100,576	86,378	111,518
Total	181,610	195,606	170,485	205,075

The area which failed to mature was 17,004 acres or 18.18 per cent. of the total area irrigated during *khariif* and 7,317 acres or 6.63 per cent. of the total area irrigated during *rabi*.

6. The total income from all sources was Rs. 4,43,797 against Rs. 4,71,361 of the previous year, and the total expenditure under all heads was Rs. 1,55,764 against Rs. 1,72,292. The net income was, therefore, Rs. 2,88,033 against Rs. 2,99,072 of the preceding year and an average of Rs. 2,81,569 for the previous triennium.

Financial results based on collections:
Rabi 1915-16,
Kharif 1916.

The uncollected balance of the Occupier's rate was Rs. 3,858.

7. Generally speaking, the Chenab Canals did well during the year. The crops were fair and there were no calamities.

General remarks.

Indigo was extensively sown, much of it on well irrigation, to meet a keen demand. Wheat was also sown extensively, and its yield was good in spite of scanty rainfall during the maturing period.

A high flood came down the river between 16th and 18th July and the gauge at Shershah rose to 18.8 inches on 19th July 1916. As a result of this flood the Dhundu flood embankment in the Shujabad Tahsil breached, but the damage done was not great. This bund is maintained by the District Board of Multan.

River erosion continued near Buch in the neighbourhood of the Gujjuhatta Canal, but was not so serious as in previous years.

The Lower Bakhtawah distributary was piped, and further piping of distributaries will be carried out as funds permit. It is proposed to re-contour the tract commanded by these canals. An accurate contoured map is greatly to be desired and should prove of considerable service in designing the alignments of distributary channels when the Haveli Project scheme is taken up in detail.

MUZAFFARGARH CANALS DIVISION.

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY)

1. No capital account is kept for these canals. They are classified under 43—Minor Works and Navigation and Agricultural.

Capital account -
Kharif 1916,
Rabi 1916-17.

2. The expenditure amounted to Rs. 36,403 against Rs. 24,170 in the preceding year, and was incurred mainly on completing and extending piping and remodelling of channels and building new falls, stop dams and tail clusters.

Extensions and improvements

In addition to the above Rs. 10,739 against Rs. 9,859 during the preceding year, were spent from the "Agricultural fund" on extension and strengthening of embankments and completing works in progress at end of the preceding year.

3. The expenditure amounted to Rs. 1,76,475 against Rs. 1,96,207 during 1915-16 and was incurred on ordinary silt clearances of canals, repairing breaches, strengthening and raising banks, and improving supplies. Rupees 14,431 in addition was expended from the "Agricultural fund" on maintenance of inspection houses and flood embankments.

Maintenance and repairs.

4. The rainfall during *kharif* was exceptionally heavy, especially in the month of August, and consequent flooding damaged a considerable area of crops, chiefly in the Sanawan Tahsil. No rain fell during *rabi*. Both the Indus and Chenab were late in rising; the latter so much so that the canals off-taking from it could not be opened till well on towards the middle of June. Thereafter, however, it maintained a high level and the canals received good supplies, which were well maintained until September. Floods came down both rivers during August, but did no damage.

Nature of season and state of demand and supply:
Kharif 1915,
Rabi 1916-17.

The following statement gives the period during which canals were in flow :—

Name of canal.		Date of opening.	Date of closing.	Number of days canal was in flow.
Indus Series	Kot Sultan ...	12th May 1916 ...	1st December 1916 ...	201
	Magasson ...	14th May 1916 ...	16th October 1916 ...	155
	Maggi ...	1st May 1916 ...	16th October 1916 ...	168
	Ghatta ...	1st May 1916 ...	30th September 1916 ...	153
	Puran ...	26th March 1916 ...	25th November 1916 ...	233
	Suleman ...	14th May 1916 ...	10th October 1916 ...	150
Chenab Series	Karam ...	15th June 1916 ...	12th September 1916 ...	88
	Ganesh ...	11th June 1916 ...	1st October 1916 ...	111
	Taliri ...	16th June 1916 ...	2nd October 1916 ...	113

5. The following statement shows the areas irrigated as compared with the averages of the two previous triennia :—

Areas irrigated;
Kharif 1916.
Rabi 1916-17.

Name of crop.	AVERAGE FOR THREE YEARS ENDING 1912-13.			AVERAGE FOR THREE YEARS ENDING 1915-16.			1916-17.		
	Matured area.	Failed area.	Percentage of kharifa.	Matured area.	Failed area.	Percentage of kharifa.	Matured area.	Failed area.	Percentage of kharifa.
Kharif ...	Acres 139,489	Acres. 22,948	Acres. 14.1	Acres. 126,024	Acres 22,408	Acres. 16.0	Acres 155,023	Acres 14,668	Acres. 8.8
Rabi ...	203,055	12,540	5.8	213,648	14,279	6.8	215,049	13,720	6.0
Total ...	342,544	35,482	9.4	340,672	36,687	9.7	370,072	28,388	7.1

The percentage of failed area, although slightly above that of the preceding year, is lower by 2.6 per cent. than that of the previous triennium and less than in any other year since 1902.

6. The total revenue amounted to Rs. 7,53,898 against Rs. 6,46,213 in 1915-16, and the working expenses to Rs. 3,51,426 against Rs. 3,57,977. The net revenue amounted to Rs. 4,02,472 against Rs. 2,88,236 of the preceding year and an average of Rs. 2,94,256 for the previous triennium.

The uncollected balance of the occupier's rate amounted to Rs. 2,720.

7. The year's results were generally excellent. In spite of the late opening of the Chenab Series the areas, both matured and irrigated, for the whole Division constitute a record.

The new feeder for the Suleman Canal gave results which surpassed expectation. The supply on this channel was equal to the demand throughout the year and the area irrigated showed an increase of 22 per cent.

The Sanawan drain was successful in preventing water-logging near the tahsil building until August, but its capacity then proved unequal to coping with the heavy rain and flooding from neighbouring high lands, though subsequently it considerably hastened drying.

The compulsory closing of the Maggi and the Magasson Canals on the 16th October conduced to early drying of the low lands commanded by these channels and facilitated sowing of rabi crops.

Further attention is being given to the question of drainage, and old drains and depressions are being cleared of obstructions and put in order.

Steady progress continues to be made in remodelling and regrading channels and in the substitution of iron pipe outlets for open cuts. The improved results obtained for the year are undoubtedly due to the better distribution made possible by these means.

The necessity for increasing the escape capacity of many channels is an important question and several schemes for this purpose are being investigated.

SHAHPUR (PROVINCIAL) INUNDATION CANALS.

(SUPERINTENDING ENGINEER—MR. W. P. SANGSTER, C.I.E.)

Capital account :
Kharif 1916.
Rabi 1916-17.

1. No capital account is kept for these canals.

Extensions and improvements.

2. No expenditure was incurred under this head.

3. Expenditure to the extent of Rs. 26,108 against Rs. 19,329 in the previous year was incurred on the usual maintenance and repairs and silt clearance. The corresponding expenditure during the preceding 22 years averaged Rs. 14,228 per annum. The increase during the year is being investigated.

Nature of seasons and state of demand and supply :
Kharif 1916.
Rabi 1916-17.

4. The rainfall was 20.08 inches (*kharif* 18.06 inches and *rabi* 1.42 inches) against 3.43 inches in the preceding year.

Demand for canal water was moderate, there being sufficient rain during *kharif*. Supply in the river was satisfactory. The canals were opened and closed on the following dates :—

	<i>Date of opening.</i>	<i>Date of closing.</i>
Raniwah Canal	... 23rd April 1916	20th September 1916.
Corbynwah Canal	... 14th May 1916	6th September 1916.

The corresponding dates of opening and closing averaged over the preceding 22 years, were as follows :—

	<i>Date of opening.</i>	<i>Date of closing.</i>
Raniwah Canal	... 16th April 1916	14th September 1916.
Corbynwah Canal	... 12th April 1916	10th September 1916.

The Raniwah opened a week later and closed six days later than the average dates of the past, and the Corbynwah opened about a month later and closed four days earlier than the past average.

Area irrigated :
Kharif 1916.
Rabi 1916-17.

5. The area irrigated compares as follows with the averages of the two preceding triennia :—

Season.				AVERAGE OF THREE YEARS ENDING		Actual for 1916-17.
				1912-13.	1915-16.	
				Acres.	Acres.	Acres.
Kharif	...	...	...	17,034	14,980	6,855
Rabi	...	...	...	8,349	11,788	24,510
Total	...	...	...	25,683	26,768	31,404

The figures for the *kharif* and *rabi* crops are not comparable with the averages of the two previous triennia on account of transfer of *kharif* irrigation of grass to *rabi*. The compliance of orders issued previously on the subject is being insisted upon.

The increase in irrigation over the preceding two triennia is due to the satisfactory state of the river supply and timely rainfall.

Revenue was remitted on 1,659 acres, of which 1,213 acres were remitted under Tenancy Rules, 339 acres due to bad germination, and 26 acres due to high supply causing the flooding of fields

6. The revenue receipts and expenditure of the year compare as follows with the figures of the previous triennium :—
Financial results based on collections:
Rabi, 1915-16.
Kharif, 1916

Details.	Average triennium ending 1915-16.	Actual for 1916-17.
	Rs.	Rs.
Total assessments, direct and indirect ...	51,679	71,047
Receipts, direct and indirect	51,689	45,465
Working expenses	39,216	47,609
Net revenue ...	12,473	— 2,141

There was a loss of Rs. 2,141 on the year's working which is due to higher working expenses and considerable area irrigated free of water-rates under Tenancy Rules. This area amounts to 1,213 acres.

SIMLA :

The 8th October 1917.

W. F. HOLMS,

Chief Engineer, Irrigation Works, Punjab.

GOVERNMENT OF THE PUNJAB.
PUBLIC WORKS DEPARTMENT.

IRRIGATION BRANCH.

Part II.

STATISTICAL STATEMENTS FOR THE YEAR 1916-17.

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STATEMENT OF CANALS

PARTICULARS.		MAJOR IRRIGATION						
		Western Jumna Canal including Sirsa Branch, British and Patana.	SINDH CANAL		Upper Bari Canal.	Lower Bari Canal.	Upper Chenab Canal.	Lower Chenab Canal.
			British.	Pakistan, N. India and Joint States.				
1		2	3	4	5	6	7	8
Source of supply		Jumna.	Futlej.		Ravi.	Ravi and Chenab.	Chenab.	Chenab.
Minimum discharge of river.	Ever recorded, cubic feet per second	2,167	2,780		1,272	220	3,884	3,634
	During the year " "	2,244	3,468		1,740	210	4,048	4,682
	As designed " "	5,178	3,840	2,160	5,000	6,750	11,742	8,318
Maximum discharge of canal.	Now authorized " "	6,430	5,431	3,080	6,700	...	11,874	10,720
	During the year " "	6,131	8,280	...	6,699	4,650	8,896	10,206
Average annual rainfall	Inches	(a) 33.48	(b) 16.40	(b) 18.19	(a) 24.16	(b) 85.11	(c) 17.87	(c) 13.11
Gross area commanded	Acres	2,785,268	2,558,132	1,954,560	1,782,560	1,557,180	1,073,330	3,387,626
Culturable area commanded	"	2,315,077	2,273,467	1,629,000	1,594,346	1,204,818	1,523,101	2,582,598
Area proposed to be irrigated annually.	By complete project	693,655	763,442	420,000	821,655	823,984	683,876	1,726,766
	At present	693,655	760,000	420,000	821,655	784,606	592,783	1,726,766
Sanctioned Estimate—								
Direct charges	Rs.	1,06,54,269	2,29,13,099	1,44,67,175	1,57,23,565	2,16,69,940	3,01,31,523	2,56,74,175
Indirect charges	"	7,52,277	12,73,126	...	...	6,68,462	12,25,441	8,31,791
Interest during construction	"	34,27,795	87,03,621	...	...	34,29,947	71,03,668	66,60,277
	Total Estimate	1,47,32,341	3,29,90,745	1,44,67,175	1,57,23,565	2,57,58,349	4,44,60,692	3,31,66,243
Expenditure to end of 1916-17.	Direct charges	1,80,44,014	2,43,81,060	1,43,17,259	2,11,00,383	2,14,20,273	3,43,61,637	3,15,78,920
	Indirect charges	8,10,219	12,11,153	...	7,77,020	4,58,890	9,80,547	5,76,008
	Interest - during construction	32,08,964	85,45,401	...	1,04,07,038	39,00,619	83,69,216	61,52,513
	Total Expenditure	2,20,63,197	3,41,38,714	1,43,17,263	3,89,31,890	2,57,79,712	4,36,51,400	3,83,07,331
Works as now sanctioned—								
Main Canals, irrigation	Miles	82	39	...	30	134	171	40
Branch Canals	"	248	270	219	295	...	...	387
Branch Feeder Canals ... ..	"	...	...	...	16	...	...	...
Lower Chantang Nala Canal	"	4	...	...	...	...	...	...
Distributaries, irrigation	"	1,837	1,500	1,821	1,561	1,050	1,178	2,249
Lower Chantang Nala Canal Distributaries	"	45	...	...	...	...	...	...
Of above—								
Navigable Channels	"	121	92	46	...	...	...	...
Works completed to end of 1916-17—								
Main Canals, irrigation	"	82	39	...	30	134	171	40
Branch Canals	"	248	270	219	295	...	...	387
Branch Feeder Canals ... ..	"	...	...	...	16	...	...	...
Lower Chantang Nala Canal	"	4	...	...	...	...	...	...
Distributaries, irrigation	"	1,837	1,500	1,821	1,561	1,046	1,107	2,249
Lower Chantang Nala Canal Distributaries	"	45	...	...	...	...	...	...
Of above—								
Navigable Channels	"	121	92	46	...	...	...	...

NOTE—Miles shown in this statement

- *Salampur and
†Includes 4 miles
- (a) Average rainfall for the last 38 years.
(b) Ditto ditto 83 do.
(c) Ditto ditto 27 do.
(d) Ditto ditto 15 do.
(e) Ditto ditto 10 do.

A. IN THE PUNJAB.

WORKS.

MINOR IRRIGATION WORKS.

Upper Jhelum Canal.	Lower Jhelum Canal.	Upper Sutlej Canals.	Sidhni Canals.	Indus Inundation Canals.	Shahpur (Imperial) Inundation Canals.	GHAGGAR INUNDATION CANALS.		Lower Sutlej Inundation Canals.	Chenab Inundation Canals.	Muzilgarh Inundation Canals.	Shahpur (Provincial) Inundation Canals.
9	10	11	12	13	14	15	16	17	18	19	20
Jhelum	Jhelum.	Sutlej.	Kavi.	Indus.	Jhelum.	Ghaggar.		Sutlej.	Chenab.	Indus Chenab.	Jhelum.
4,514	2,795	3,001	The river runs dry.	9,439	2,795	The river runs dry		2,580	1,650	9,489 1,650	2,795
4,514	...	3,690		22,856	...			2,530	1,650	22,658 1,650	...
8,500	8,500	4,986		Not known	1,100	1,000	500	5,555	5,109	7,584	933
...	{ K 8,750 R 8,750 }	...	2,605	...	1,100	1,100	600	...	...	...	934
5,690	4,250	7,691	2,629	8,719	517	725	234	6,281	4,105	11,015	735
81.52	(d) 11.00	(f) 10.07	(g) 6.61	(A) 6.57	(g) 14.52	(i) 9.85	(j) 12.62	(A) 5.41	(A) 6.05	(a) 5.2	(g) 10.77
598,106	1,563,399	962,780	850,377	879,108	67,067	80,924	44,901	918,203	458,478	771,811	60,929
569,209	1,162,405	899,896	344,159	422,923	62,654	72,876	34,618	905,152	800,318	674,932	59,255
341,960	668,921	349,697	150,000	805,760	47,750	46,834	17,309	250,000	200,000	850,000	27,000
327,095	668,921	329,194	150,000	805,760	42,000	46,834	17,309	250,000	200,000	850,000	24,170
4,32,40,292	1,83,05,782	13,35,878	9,62,353	6,87,906	2,05,913	8,59,592	3,07,555	...	...	...	...
10,55,277	5,69,206	45,400	37,092	19,729	9,891	10,023	...	...	...	...	...
73,20,743	32,09,554	...	29,086	...	...	...	...	...	...	...	...
5,19,17,306	2,22,62,712	13,52,778	10,39,561	7,07,645	2,15,914	8,69,720	8,07,555	...	...	...	...
4,30,11,594	1,55,13,447	17,18,805	12,95,265	29,01,976	2,03,939	8,65,837	2,55,412	...	...	...	...
8,38,568	3,59,721	1,01,641	49,226	50,375	9,081	10,792	...	...	...	...	...
85,23,443	33,93,714	8,87,090	2,13,511	6,55,207	...	...	...	...	...	...	...
5,23,72,340	2,42,96,892	27,06,936	15,45,001	30,68,558	2,15,914	8,76,129	2,95,442	...	...	...	...
155	30	826	63	443	59	44	55	400	207	417	33
37	203	...	...	...	13	...	...	...	...	...	18
...
...
804	097	835	252	804	72	34	...	807	63	740	52
...
...
458	30	826	63	443	59	44	55	400	267	417	33
87	156	...	...	...	13	...	...	...	...	...	18
...
...
305	097	835	252	804	72	34	...	807	63	740	52
...
...

ava canal miles of 5,000 feet.

Paridnagar Chaoncle.

for Bhimber diversion—

(5) Average rainfall for the last 24 years.

(6) Ditto ditto 28 do.

(7) Ditto ditto 50 do.

(8) Ditto ditto 18 do.

(9) Ditto ditto 14 do.

(10) Ditto ditto 7 do.

IB

		DIRECT CHARGES (NOT EXPENDITURE).					Indirect charges exclusive of interest.	Total charges exclusive of interest.	Simple interest.
		Works.	Establishment.	Tools and Materials.	Surveys.	Total.			
1	2	3	4	5	6	7	8	9	
49—CAPITAL EXPENDITURE ON IRRIGATION WORKS NOT CHARGED TO REVENUE.									
WESTERN JUNTA CANAL INCLUDING SIERRA BRAYCK.									
To end of previous year	...	1,31,39,552	83,34,332	9,17,908	2,19,728	1,08,89,547	6,10,188	1,78,09,836	
During the year	...	907	320	18	47	1,180	21	1,310	
Contribution	{ To end of previous year	9,00,108	2,35,848	25,708	...	31,00,478	...	31,00,478	
	{ During the year	...	...	...	...	...	...	...
SIERRA CANAL—IMPERIAL.									
To end of previous year	...	1,74,23,310	42,37,010	31,00,384	1,85,072	2,43,45,111	12,11,447	2,56,56,558	
During the year	...	31,034	2,102	—99	17,718	39,840	—204	39,636	
Contribution	{ To end of previous year	97,31,130	35,80,410	12,01,408	...	1,43,02,008	...	1,43,02,008	
	{ During the year	13,088	701	—10	...	13,777	66	13,843	
	{ To end of previous year	2,772	74	—1	...	3,545	9	3,554	
	{ During the year	3,098	84	—1	...	3,182	9	3,190	
UTTER BANK DOCK CANAL.									
To end of previous year	...	1,61,08,101	34,04,354	9,14,627	6,12,100	2,11,30,462	7,43,005	2,18,73,467	
During the year	...	1,61,133	—35,738	422	—1,55,923	—30,154	—4,696	—35,120	
LOWER BANK DOCK CANAL.									
To end of previous year	...	1,54,01,374	27,30,153	10,10,000	9,62,400	2,05,03,064	4,16,029	2,10,21,093	
During the year	...	1,16,123	2,76,870	4,21,770	—80,453	7,23,509	36,029	7,62,571	
UPPER CHENNAI CANAL.									
To end of previous year	...	1,68,04,778	42,01,634	16,04,094	9,11,407	2,80,24,602	8,77,090	2,89,01,693	
During the year	...	1,04,640	2,18,709	5,09,454	—1,80,088	7,57,114	1,03,627	8,60,741	
LOWER CHENNAI CANAL.									
To end of previous year	...	2,61,07,272	47,31,392	6,30,000	4,78,005	3,10,33,000	7,62,881	3,17,94,720	
During the year	...	4,10,078	87,204	6,315	23,608	4,40,021	12,817	4,52,838	
UPPER JERUAM CANAL.									
To end of previous year	...	8,15,30,787	44,03,828	44,70,020	31,07,074	4,15,01,206	7,70,423	4,23,01,110	
During the year	...	11,51,901	3,18,233	1,16,738	—1,52,072	14,30,299	56,510	14,86,809	
LOWER JERUAM CANAL.									
To end of previous year	...	1,30,13,054	31,28,878	2,03,027	4,12,455	1,84,70,841	3,00,131	1,85,07,702	
During the year	...	—2,070	6,283	299	—55,700	—59,104	800	—52,784	
UPPER SUTLER IRRIGATION CANAL.									
To end of previous year	...	12,75,814	3,05,097	24,280	30,063	17,17,361	1,01,027	16,18,351	
During the year	...	681	80	7	754	1,461	14	1,465	
SIDHANT IRRIGATION CANAL.									
To end of previous year	...	9,46,878	2,03,990	30,029	43,007	12,00,744	40,317	12,40,061	
During the year	...	...	87	...	8,494	6,021	3	4,529
INDUS IRRIGATION CANAL.									
To end of previous year	...	23,45,100	4,23,964	35,022	84,463	21,02,360	70,948	20,73,303	
During the year	...	12,372	542	29	—4,260	5,018	429	9,045	
Total Imperial	{ To end of previous year	16,30,34,330	3,07,39,018	1,19,98,426	49,78,123	21,07,41,711	48,09,773	21,69,81,464	
	{ During the year	19,78,808	9,03,801	10,46,830	4,70,238	34,86,730	2,08,079	36,04,709	
Total Contribution	{ To end of previous year	1,06,81,338	25,05,991	12,15,254	...	1,54,63,493	...	1,54,63,493	
	{ During the year	14,457	840	—12	...	16,284	103	15,287	
50—MINOR WORKS AND NAVIGATION.									
BRAMPUR CANAL.									
To end of previous year	...	1,75,000	30,380	612	...	3,06,533	9,081	3,16,014	
During the year	...	...	...	...	...	...	...	...
GHAGGAR CANAL.									
To end of previous year	...	3,04,017	63,797	7,093	...	3,86,337	10,792	3,97,129	
During the year	...	...	...	...	...	...	...	...
Contribution	{ To end of previous year	2,36,621	44,354	2,574	...	2,83,543	...	2,83,543	
	{ During the year	...	...	...	...	...	...	...
Total Imperial	{ To end of previous year	4,89,677	12,067	9,510	...	5,27,370	20,773	5,32,043	
	{ During the year	...	...	...	...	...	...	...
Total contribution	{ To end of previous year	2,88,626	44,354	2,574	...	2,85,443	...	2,85,443	
	{ During the year	...	...	...	...	...	...	...
JAMSHED CANAL.									
To end of previous year	...	25,078	19,321	2,004	...	31,004	2,705	33,709	
During the year	...	...	...	...	...	...	...	...

I C.

**STATEMENT SHOWING THE FINANCIAL RESULTS OF THE IRRIGATION WORKS IN
THE PUNJAB PROVINCE FOR THE YEAR ENDING 31st MARCH 1917.**

STATEMENT SHOWING THE FINANCIAL RESULTS OF THE IRRIGATION.

REALIZATIONS UNDER THE MAIN HEAD OF

IRRIGATION.	REVENUE ACTUAL RECEIPTS.										
	IRRIGATION.				Navigation.	Floodation.	Water power.	Miscellaneous.	Total.	Refund of revenue.	Gross receipts less refunds.
	Water-rate directly yield.	Share of land revenue, assessment of waste and other lands.	Owner's rate.	Total.							
1	2	3	4	5	6	7	8	9	10	11	12
PRODUCTIVE WORKS.											
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Western Jumna Canal, including Sirsa Branch. { Imperial ..	27,70,447	2,09,310	...	29,79,757	73,894	22,850	2,329	65,982	61,53,094	1,134	31,01,750
Contribution ..	2,31,911	...	...	2,31,911	...	335	273	3,169	(a) 2,35,798	1,961	2,33,781
Sirhind Canal ... { Imperial ...	39,63,063	1,42,791	...	40,90,250	9,793	31,311	1,93,006	1,22,627	43,04,320	654	43,03,670
Contribution ..	24,71,616	...	...	21,71,910	6,310	26,821	41,780	65,349	25,60,911	8,001	(b) 20,72,310
Upper Bari Doab Canal ...	42,07,110	9,08,876	...	42,75,984	...	28,933	1,10,437	1,67,007	53,12,201	6,437	52,06,664
Lower Bari Doab Canal ...	7,31,730	2,03,024	...	9,37,054	...	3,073	...	24,433	9,65,120	237	9,64,883
Upper Chenab Canal ...	32,83,045	3,61,872	...	25,09,917	...	421	...	23,478	25,63,010	260	25,62,750
Lower Chenab Canal ...	26,63,036	60,09,027	...	1,07,31,063	...	16,070	14,499	87,912	1,08,70,111	311	1,08,30,103
Upper Jhelum Canal ...	74,793	...	...	74,793	...	2	...	8,811	63,699	8	63,691
Lower Jhelum Canal ...	20,19,110	17,44,631	...	46,71,902	...	4,210	22,077	20,071	47,38,066	373	47,39,523
Upper Sutlej Inundation Canals ...	2,78,080	2,16,068	...	5,04,037	...	9,078	...	9,090	6,09,001	210	6,08,791
Sidhuast Canals ...	4,61,101	1,31,344	...	5,63,669	...	237	...	4,358	5,60,123	371	5,59,752
Indus Inundation Canals ...	1,02,913	2,73,600	...	4,06,143	...	2,327	...	50,830	5,28,300	...	5,28,300
TOTAL ... { Imperial ...	5,66,33,130	1,19,31,291	...	3,35,61,421	63,381	1,16,493	2,71,150	6,61,459	3,98,28,938	7,921	3,99,31,013
Contribution ..	20,00,666	...	...	26,09,666	5,310	21,150	43,033	39,639	29,06,949	10,535	27,99,004
WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.											
Lower Sutlej Inundation Canal, including Rajpals	3,16,634	3,05,700	...	6,22,331	...	3,493	...	2,055	9,20,914	189	9,20,725
Munafgarh Inundation Canals ...	3,32,655	4,10,910	...	7,39,274	...	13,117	...	2,056	7,53,917	49	7,53,868
Chenab Inundation Canals ...	1,93,728	2,43,703	...	4,47,520	...	1,000	...	1,019	4,44,043	215	4,43,797
TOTAL ...	8,33,014	9,60,314	...	16,02,123	...	10,610	...	6,369	18,21,003	450	18,21,433
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.											
Shahpur Canal ...	80,316	34,672	...	1,14,987	...	35	...	0	1,15,016	...	1,15,016
Ghaggar Canal ... { Imperial ...	21,847	...	...	21,847	...	...	...	3	21,850	...	21,850
Contribution ..	...	...	...	...	...	...	...	...	...	...	...
TOTAL ... { Imperial ...	1,02,162	34,672	...	1,36,831	...	25	...	9	1,36,968	...	1,36,969
Contribution ..	...	...	...	...	...	...	...	...	...	...	...
PROTECTORIAL.											
Shahpur Canal ...	31,693	12,873	...	44,566	...	...	...	603	45,466	...	45,466
Indus Inundation Canals ...	...	3,323	...	3,323	...	...	...	...	3,323	...	3,323
TOTAL ...	31,693	16,196	...	49,887	...	...	...	603	45,687	...	45,687

(a) Includes Rs. 1,336 credited to Patela State through (b) and (c) includes Rs. 21,031 and Rs. 19,537, respectively, (d) includes Rs. 72,623 passed through the Administrative (e) " " 6,52,143, Rs. 77,315 and Rs. 31,413 spent (f) " " 2,750 spent by the Bikaner State, (g) " " 2,200 " " " " (h) " " 3 " " " " "

C.

WORKS IN THE PUNJAB PROVINCE FOR THE YEAR ENDING 31st MARCH 1917.

REVENUE AND WORKING EXPENSES.

MAINTENANCE OF WORKS.																				
ESTABLISHMENT REVENUE.					ESTABLISHMENT.															
Director.	Executive.	Navigational.	Civil Officers.	Total.	Director.	Executive.	Medical.	Total.	Works.	Repairs.	Sundries.	Tools and plants.	Plantation.	Total cost of maintenance.	Total direct charges.	Indirect charges.	Grand Total Working expenses.		Net Revenue.	
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
38,107	3,23,835	253	75,781	4,38,025	16,203	92,064	11,017	1,21,014	1,11,182	8,66,160	8,327	14,189	10,702	8,27,380	12,77,408	78,010	13,56,021	17,95,730		
59	250	...	...	343	8,039	30,631	...	39,180	18,339	(c) 4,434	105	874	1,372	1,03,202	1,03,037	...	1,03,637	1,20,147	
30,220	3,20,431	147	1,27,594	4,83,458	12,222	62,163	9,725	81,113	1,31,623	6,56,168	140	16,053	20,637	8,11,107	13,04,015	82,536	13,87,100	20,76,620		
3,014	10,509	...	...	11,283	21,487	67,021	2,032	1,14,000	1,21,075	6,77,825	1,335	0,850	5,604	0,20,789	0,43,063	...	0,43,063	16,20,347	
61,229	1,63,410	...	1,10,010	6,24,020	12,684	77,186	6,403	45,453	1,00,756	4,35,832	...	27,277	33,53	6,01,121	13,17,791	1,01,336	14,18,126	37,60,738		
15,014	1,39,329	...	24,100	1,77,370	14,600	20,616	...	11,085	9,901	3,70,103	...	6,303	27,51	1,17,075	5,06,374	31,002	7,28,350	3,39,537		
21,239	1,60,554	...	60,637	2,02,326	9,115	21,198	...	23,313	23,87	1,53,603	4,700	5,516	11,005	5,31,310	7,90,070	11,850	8,98,901	17,25,299		
40,102	6,11,427	...	2,64,722	0,45,351	16,971	1,23,670	23,518	1,62,371	6,26,162	8,79,007	2,093	49,190	50,592	16,10,320	25,04,077	1,55,100	27,18,723	1,41,0,320		
1,818	55,711	...	1,607	00,420	20,463	60,070	...	00,464	47,541	3,95,067	...	6,719	21,318	6,00,254	0,10,510	20,083	0,40,705	-5,57,161		
45,180	9,02,274	...	81,801	4,32,307	11,142	41,011	12,707	68,710	72,462	2,61,739	...	47,700	0,806	4,51,013	0,11,820	70,142	0,83,862	37,51,631		
5,377	78,521	...	10,228	01,160	7,421	41,207	1,506	63,471	13,523	2,43,129	...	1,078	0,470	3,20,512	4,50,731	30,087	4,41,398	1,07,300		
3,700	53,316	...	5,410	07,651	1,071	6,790	1,712	11,513	10,503	40,142	...	8,600	5,332	80,382	1,47,013	11,069	1,50,013	4,30,737		
4,038	43,581	...	6,700	50,310	8,003	55,051	1,475	66,501	1,16,320	1,21,407	23	1,618	16,090	3,17,000	3,78,010	10,085	5,08,004	1,29,745		
2,71,215	20,10,407	320	7,71,630	30,53,061	1,70,856	0,32,413	07,403	6,30,744	11,61,819	42,61,751	18,517	1,75,712	2,10,151	60,83,768	1,03,37,540	8,32,731	1,00,70,471	2,80,01,411		
2,703	10,925	...	...	13,028	20,325	1,21,662	2,032	1,67,850	1,40,613	7,21,360	1,416	10,263	0,437	10,33,072	10,40,700	...	10,40,700	17,10,304	
0,009	40,543	...	0,009	61,038	5,230	22,093	1,353	23,235	40,922	67,389	-622	1,406	5,131	1,02,632	2,10,060	13,001	2,36,727	3,57,001		
0,937	66,160	...	9,405	73,960	11,780	35,337	...	47,117	39,403	1,00,705	-1,409	1,625	0,710	2,60,131	3,34,471	16,975	3,51,420	4,02,472		
5,115	16,254	...	5,446	25,815	8,311	15,719	...	21,027	23,700	71,720	...	497	6,281	1,23,353	1,42,108	8,060	1,55,764	2,69,033		
20,671	1,10,001	...	23,009	1,63,671	32,371	73,075	1,783	07,420	1,00,001	3,10,892	-3,021	3,872	31,105	5,47,464	7,16,335	30,653	7,40,017	10,77,500		
4,208	11,000	...	2,217	17,022	2,007	5,101	...	7,316	...	18,017	...	...	322	20,155	47,707	3,458	47,175	07,513	
3,101	9,090	...	602	10,793	1,000	0,535	...	6,231	1,500	0,787	...	-31	40	17,036	27,915	2,083	20,480	-8,630		
...	...	...	...	...	155	(f) 8,165	...	3,350	613	(g) 4,000	...	(h) 37	20	8,130	8,130	...	8,130	-8,130	
0,307	10,059	...	2,610	23,335	3,721	11,720	...	15,470	1,020	23,401	...	-31	371	43,160	71,620	0,130	77,635	00,213		
...	...	...	...	...	166	3,103	...	3,320	033	4,000	...	37	30	8,130	8,130	...	8,130	-8,130	
2,037	4,716	...	1,118	7,871	3,313	7,001	...	10,914	...	26,108	...	...	...	37,052	41,070	2,033	47,000	-2,114	
3,109	...	...	...	2,100	...	...	...	...	...	...	...	...	...	...	2,100	203	2,401	619	
4,107	4,710	...	1,118	10,003	3,318	7,001	...	10,914	...	20,108	...	...	...	37,052	47,065	2,028	69,013	-1,320	

the Administrative Accounts of the Province.
actually spent by the British State on maintenance of State Channels.
Accounts of the Province.
by the Native States of Faisal, Nabha and Jind, respectively.

STATEMENT SHOWING THE FINANCIAL RESULTS OF IRRIGATION

Number of works.	Name of works.	GENERAL FINANCIAL RESULTS TO END OF 1916-17.								
		Mileage in operation.		Estimated cost of construction (direct and indirect).	Date of completion of work (P. W. Code II, 1918).	Date when system first came into operation.	Total capital outlay (direct and indirect).	Accumulated earnings of interest.	Accumulated surplus revenues.	Total sum-at-charge (column 7 + column 9).
		Main Canals and Branches.	Distributaries.							
1	2	3	4	5	6a	6b	7	8	9	10
		Miles.	Miles.	Rs.	Date.	Date.	Rs.	Rs.	Rs.	Rs.
MAJOR WORKS.										
PRODUCTIVE WORKS.										
-1	Western Jammu Canal, including Sirsa Branch.	(a) 294	(b) 1,741	1,74,79,840	Western Jammu Canal—1886	1820	1,76,93,755	...	6,28,63,602	1,76,93,755
		35	161	11,60,478	Sirsa Branch—1885	1891-92	11,60,478	...	...	11,60,478
-2	Sirhind Canal.	318	1,690	2,54,14,332	1896-97	1893-94	2,55,92,813	...	1,79,09,042	2,55,92,813
		210	1,821	1,43,18,870	...	...	1,43,17,289	...	...	1,43,17,289
-3	Upper Bari Doab Canal.	341	4,661	2,10,06,680	1878-79	1900-01	2,18,37,358	...	4,56,29,898	2,18,37,358
4	Lower Bari Doab Canal.	134	1,046	3,20,28,402	31st March 1917	1913-14	2,18,74,263	85,36,554	...	2,54,10,817
5	Upper Chenab Canal.	171	1,107	3,65,34,024	31st March 1917	1912-13	3,68,42,184	61,09,593	...	4,15,41,777
6	Lower Chenab Canal.	427	2,249	3,20,08,066	1899-1900	"	3,23,56,016	...	12,71,39,012	3,23,56,016
7	Upper Jhelum Canal.	125	396	4,61,21,559	31st March 1917	1915-16	4,38,49,947	90,80,907	...	5,29,30,854
8	Lower Jhelum Canal.	185	997	1,69,68,068	31st March 1917	1901	1,59,33,166	...	1,71,18,331	1,69,83,168
9	Upper Sutlej Inundation Canals.	320	395	17,97,019	Upper Sutlej—1856-59 Lower Sutlej—1892-90	1855 1884	18,19,844	...	31,40,189	18,19,844
10	Sidhwal Canals.	68	262	12,87,939	1886	1886	*13,35,490	...	63,21,034	13,35,490
11	Indus Inundation Canals.	443	304	29,14,290	1849-50	Prior to—1949	*29,82,851	7,06,680	...	86,69,031
	Total { Imperial ...	2,642	11,429	22,67,54,836	...	...	22,06,16,103	1,95,23,434	27,01,21,618	24,01,59,027
	Contribution	254	1,972	1,64,79,848	...	...	1,51,77,767	...	...	1,54,77,767
MINOR WORKS.										
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.										
12	Shahpur Canal.	60	73	2,16,914	1870-71	1870	2,16,014	...	11,30,301	2,16,914
13	Ghaggar...	44	84	3,70,129	1098-99	1897	3,79,120	10,75,556	...	14,61,637
	Total { Imperial ...	110	108	6,92,043	...	...	6,92,013	10,75,556	11,30,801	16,87,601
	Contribution	58	...	2,86,442	...	...	2,85,442	...	...	2,85,442
WORKS FOR WHICH REVENUE ACCOUNTS ARE KEPT.										
14	Lower Sutlej Inundation Canals.	400	807	...	1895	Were in operation prior to annexation of the Punjab by the British.	...	...	75,14,240	...
15	Muzaffargarh Inundation Canals.	417	740	...	1896		...	...	79,27,309	...
16	Chenab Inundation Canals.	287	68	...	1895		...	...	60,02,447	...
	Total	1,084	1,110	...	...	...	...	...	2,28,43,998	...
Provincial.										
17	Shahpur Canal.	50	52	...	...	...	...	...	2,54,880	...
18	Ravi Canal.	...	...	...	...	...	...	...	...	...
	Total	50	52	...	...	...	...	...	2,54,880	...

*Opened as an Inundation Canal in 1867
(a) Includes 4 miles and (b) 45 miles of

C.

WORKS FOR, AND UP TO THE END OF, 1916-17.

FINANCIAL RESULTS OF THE YEAR 1916-17.									
Gross receipts (direct and indirect),	Working expenses (direct and indirect),	Net revenue,	Percentage on Capital outlay, column 10.	Percentage on annual charge, column 10.	Interest at 3-2,504 per cent. on direct Capital outlay to end of previous year, plus half the outlay of the year.	Net profit.	Net loss.	Area irrigated.	Percentage of working expenses to receipts (column 11 to column 12).
11	12	13	14	15	16	17	18	19	20
Rs.	Rs.	Rs.	%	%	Rs.	Rs.	Rs.	Acres.	%
81,51,750	13,50,021	17,95,729	10.15	10.15	5,56,529	12,39,200	...	748,588	43.02
1,398	62,410	-61,074	5.26	5.26	...	...	81,074	70,869	4671.040
43,03,675	13,87,150	29,76,525	11.63	11.63	8,03,114	21,78,412	...	8,91,781	31.78
72,523	4,83,133	-4,09,607	2.86	2.86	...	...	4,09,007	5,33,959	804.77
52,08,561	14,19,120	37,69,788	17.35	17.35	6,96,049	30,93,089	...	12,01,237	27.24
9,61,893	0,20,350	3,38,537	1.55	1.33	6,93,682	...	3,55,145	5,14,938	84.91
25,63,550	5,39,261	17,23,289	4.63	4.15	11,20,548	6,04,788	...	4,37,477	32.63
1,68,32,103	27,19,783	1,41,10,320	43.61	43.81	10,31,083	1,30,78,352	...	22,88,729	15.16
83,031	0,10,795	5,57,164	1.27	1.05	13,94,250	...	19,51,424	1,17,005	766.21
47,33,593	9,83,962	37,54,631	23.56	23.50	5,12,931	32,41,710	...	8,04,701	20.76
6,08,994	4,41,503	1,67,396	9.19	9.19	56,631	1,10,702	...	8,18,151	72.50
5,59,749	1,59,012	4,30,737	32.23	32.25	42,023	3,89,114	...	2,08,556	20.96
5,28,300	3,93,601	1,29,505	4.35	3.51	65,519	34,180	...	2,65,158	75.44
3,90,31,912	1,09,79,471	2,86,61,441	12.59	11.93	70,03,847	2,39,54,103	28,00,580	78,50,039	37.68
73,862	5,41,543	-4,70,681	3.04	3.04	...	...	2,18,57,694	4,70,081	0.18,828
1,15,018	47,175	67,843	31.42	31.42	0,788	01,055	...	46,769	41.01
21,850	80,450	-8,630	2.29	7.69	12,043	...	20,678	23,327	189.49
...	3,105	-3,105	1.09	1.09	...	...	3,105	12,040	...
1,36,868	77,055	59,213	10.00	3.55	13,531	01,055	20,073	75,096	56.73
...	3,105	-3,105	1.09	1.09	...	...	40,932	3,105	12,040
6,26,728	2,89,727	3,87,601	...	...	...	3,87,001	...	3,63,884	36.25
7,53,898	3,51,420	4,02,472	...	...	...	4,02,472	...	3,98,458	46.61
4,43,797	1,55,754	2,58,033	...	...	...	2,88,033	...	2,05,075	35.09
18,24,423	7,40,917	10,77,506	...	...	...	10,77,506	...	9,67,417	40.93
45,465	47,809	2,144	...	...	...	...	2,144	31,401	104.71
3,222	2,401	818	...	...	...	818	...	...	74.61
48,087	50,018	-1,920	...	...	...	818	2,144	31,401	103.72

and as a Perennial Canal in 1892,
the Lower Chautang Nala Canal.

III C.

STATEMENT SHOWING DEMANDS AND REALIZATIONS IN THE PUNJAB PROVINCE
FOR THE YEAR 1916-17.

Name of Canal.	Balance of demands remaining unrealized at the commencement of the year.	Demands during the year.	Total.	Deducted remissions not including cash refunds.	Net amount.	Actual realizations.	Amount unrealized at the close of the year.
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
XXIX—MAJOR WORKS—							
DIRECT RECEIPTS.							
<i>Water or occupier's rate.</i>							
Western Jumna Canal ...	1,499	29,32,402	29,33,901	41,077	27,69,224	27,79,447	9,777
Sirhind Canal ...	1,35,496	39,74,458	41,09,954	1,32,891	39,77,063	39,53,965	29,099
Upper Bari Doab Canal ...	14,966	43,05,357	43,20,323	97,202	42,23,031	42,07,119	15,912
Lower Bari Doab Canal ...	4,516	11,70,077	11,74,593	7,37,000	7,30,591	7,31,730	1,864
Upper Chenab Canal ...	5,973	25,23,417	25,29,390	2,05,303	23,24,087	22,85,015	39,042
Lower Chenab Canal ..	—1,593	67,31,433	67,29,840	63,810	89,06,521	80,63,030	3,435
Upper Jhelum Canal ..	...	1,43,293	1,43,299	71,697	70,599	74,703	1,806
Lower Jhelum Canal ...	5,737	29,12,064	29,17,801	2,421	29,15,377	29,10,119	5,259
Sidhwal Canal ...	3,173	4,51,110	4,57,293	...	4,57,292	4,54,164	3,129
Upper Sutlej Inundation Canals ...	5,069	4,01,760	4,09,829	21,891	3,81,938	3,78,000	6,809
Indus Inundation Canals ...	53,720	2,38,905	2,92,625	10	2,92,607	(a) 2,49,337	43,270
Total occupier's rates ...	2,28,550	2,70,55,289	2,82,23,845	13,80,512	2,68,43,333	2,66,89,821	1,59,500
<i>Owner's rate.</i>							
Lower Chenab Canal ...	...	20,542	20,542	...	20,542	6,829	11,213
XXX—MINOR WORKS AND NAVIGATION.							
Lower Sutlej Inundation Canals ...	177	2,91,100	2,91,277	...	2,91,277	2,91,210	67
Muzaffargarh Inundation Canals ..	187	3,25,220	3,25,407	33	3,25,371	3,22,655	2,710
Chenab Inundation Canals ...	3,205	1,91,378	1,97,583	...	1,97,593	1,93,725	3,858
Hafiwah Canal ...	...	22,421	22,124	...	22,421	22,421	...
Shahpur Inundation Canals ...	—10	81,520	81,510	4,214	80,305	80,815	—10
Ghaggar Inundation Canals ...	..	21,775	21,578	2,698	21,880	21,347	533
Total ...	8,569	9,45,229	9,45,788	6,945	9,41,843	9,35,176	6,607
PROVINCIAL.							
Shahpur Canal ...	43	31,845	31,888	...	31,888	31,882	—4
Ravi Canal ...	...	...	...	...	...	...	...
Total ...	43	31,845	31,888	...	31,888	31,882	—4

(a) Includes Rs. 55,094 on account of Dhundi Estate.

IV C.

STATEMENT SHOWING THE FINANCIAL RESULTS OF THE IRRIGATION WORKS IN THE PUNJAB PROVINCE FOR THE YEAR 1916-17 BASED ON ASSESSMENTS OF THE YEAR 1916-17 AND FINANCIAL RESULTS OF THE OPERATIONS FOR THE YEAR ENDING 31st MARCH 1917.

IRRIGATION WORKS.	Capital outlay direct and indirect to end of the year 1916-17.	REVENUE ASSESSED DURING THE YEAR.										Working expenses direct and indirect.	Net assessed revenue of the year.	Percentage on capital outlay to end of the year.
		DIRECT ASSESSED RECEIPTS.												
		Decay of rate.	Owner's rate.	Plantation.	Water power.	Navigation.	Miscellaneous.	Total.	Indirect charges.					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
PRODUCTIVE WORKS.														
Western Jamna Canal (Imperial ... Including Sindh Branch. Contribution)	Rs. 1,70,63,766 11,60,479	Rs. 27,41,609 2,79,376	Rs.	Rs. 22,830 335	Rs. 3,320 273	Rs. 73,593 ...	Rs. 65,802 3,189	Rs. 20,00,735 2,82,072	Rs. 2,09,310 ...	Rs. 21,16,016 2,82,072	Rs. 13,56,021 1,63,037	Rs. 17,00,021 1,79,436	0.94 16.89	
Sirhind Canal (Imperial ... Contribution)	2,56,02,613 1,43,17,250	36,81,363 23,17,600	...	31,311 20,821	1,03,000 41,750	0,703 5,310	1,22,330 33,310	36,01,632 21,23,959	1,42,701 ...	36,44,723 21,23,959	19,87,160 0,48,063	25,87,573 14,60,823	0.90 10.34	
Upper Bari Doab Canal ...	2,18,37,859	41,21,050	...	23,933	1,10,457	...	1,07,907	41,60,310	6,06,873	61,29,231	14,10,120	37,16,105	18.99	
Lower " " "	2,18,74,263	10,77,410	...	3,073	...	...	21,903	11,01,893	2,02,021	13,07,919	6,20,358	9,81,468	3.11
Upper Chenab Canal ...	3,63,42,181	22,67,410	...	421	...	...	23,478	23,11,312	6,04,987	29,06,299	8,83,284	20,98,036	6.82
Lower " " "	0,23,65,618	63,62,146	- 0,012	16,070	14,420	...	67,612	94,71,015	74,19,563	1,68,83,178	27,10,783	1,31,73,393	40.71	
Upper Jhelum Canal ...	4,36,49,917	3,01,100	...	2	...	...	8,811	3,69,043	...	3,69,043	6,40,705	-2,70,852	-0.63
Lower " " "	1,59,33,108	27,31,670	...	4,210	32,077	...	26,071	27,06,634	17,01,683	45,00,617	0,83,062	56,70,555	23.11	
Upper Sutlej Irrigation Canals ...	16,10,595	4,04,149	...	6,078	...	...	0,950	4,10,110	2,23,450	6,32,560	4,41,369	2,01,109	11.06
Siddhal Irrigation Canal ...	13,36,400	4,00,823	...	237	...	...	4,358	5,01,408	1,31,311	6,32,612	1,60,012	4,73,600	25.47
Indus Irrigation Canals ...	20,63,361	2,27,705	...	2,327	...	...	69,830	2,80,931	3,73,500	6,53,431	3,08,604	1,04,827	1.53
TOTAL (Imperial ... Contribution)	22,00,10,193 1,51,77,707	3,63,63,837 25,95,863	- 0,012	1,16,432 21,166	2,74,160 47,003	83,381 6,340	1,01,490 39,638	3,71,36,137 27,06,069	1,10,19,403 ...	3,00,65,504 27,03,039	1,09,50,477 10,46,700	3,50,66,129 16,50,258	12.73 10.72	
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.														
Shahpur Canals ...	2,16,011	1,69,490	...	23	...	...	6	1,00,617	42,082	1,51,699	47,176	1,01,421	48.38
Ghaggar Canals (Imperial ... Contribution)	3,70,129 2,85,432	22,673 27,016	...	...	...	...	3 1,987	22,678 27,063	...	22,678 27,063	30,480 8,130	-7,002 10,823	-2.10 0.7
TOTAL (Imperial ... Contribution)	5,02,017 2,85,432	1,32,001 27,016	...	23	...	...	9 337	1,22,995 27,063	42,082 ...	1,51,177 27,063	77,655 8,130	90,822 16,823	10.30 0.71
WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.														
Lower Sutlej Irrigation Canals ...	...	3,61,272	...	3,405	...	...	2,046	3,56,533	3,05,700	6,01,633	2,90,727	4,21,625	...
Chenab Irrigation Canals ...	...	2,14,431	...	1,903	...	...	1,616	2,17,013	2,40,793	4,64,798	1,55,701	3,08,074	...
Muzaffargarh Irrigation Canals ...	...	3,22,067	...	12,117	...	...	3,650	3,37,630	4,10,010	7,54,240	3,61,426	4,02,823	...
Total ...	...	6,69,650	...	10,616	...	...	6,306	6,11,423	9,00,114	16,60,630	7,40,017	11,39,022	...
PROVINCIAL WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.														
Shahpur Canals ...	...	49,600	...	...	...	...	600	60,100	20,038	71,647	47,600	23,436	...
Ravi Irrigation Canals ...	...	...	...	...	...	...	...	...	6,323	3,272	2,401	818	...
Total ...	...	49,600	...	...	...	...	600	60,100	24,100	71,260	50,013	24,250	...

*Includes Rs. 0,025 spent by the Bikaner State.
†Figures reported by the Bikaner State.

I. D.

STATEMENT OF TRAFFIC ON CANALS IN THE PUNJAB DURING THE YEAR 1916-17.

Particulars.	Western Jumna Canal.	Sirhind Canal.
Length of channel open for navigation ... Miles	121	138
Receipts—		
Tollage on private boats ... Rs.	...	2,622
„ „ Government boats ... „	...	70
„ „ rafts ... „	73,586	12,449
Carrying operations or transport service—		
Hire of Government boats ... „	...	...
Refund of revenno ... „	...	...
Total receipts ... „	73,586	15,141
Maintenance charges, including special Navigation Establishment „	5,357	3,627
Net Revenue of year ... „	68,229	11,514
Total number of boats plying cargo ...	...	...
„ „ „ „ passengers ...	...	...
Total registered tonnage cargo ...	...	...
„ „ „ „ passengers ...	...	...
Ton mileage, Up (a) ...	...	...
Down ...	...	...
Total ...	...	...
Estimated value of cargoes, Up (a) ... Rs.	...	...
„ „ „ Down ... „	...	...
Total ... „	...	...
Number of passengers ..	...	18,409
Rafts, Up ... C. ft	...	...
„ Down ... „	3,305,050	1,284,072
Total ... „	3,305,050	1,284,072
Estimated value of rafts ... Rs.	88,80,944	9,24,557
Tollage on boats per ton per mile (a) ...	...	...
„ „ rafts per 100 c. ft. ...	2-23	0-97

(a) Details of boat traffic are not recorded (Government of India, Public Works Department, No. 78-I, dated 22nd April 1892).

II D.

DESCRIPTION AND QUANTITIES OF RAFT TRAFFIC ON CANALS IN THE PUNJAB DURING THE YEAR 1916-17.

Particulars.	WESTERN JUMNA CANAL.						SARINDH CANAL.						TOTAL.					
	TOTAL.			PRIVATE.			TOTAL.			PRIVATE.			TOTAL.			PRIVATE.		
	Quantity in tons.			Value.			Quantity in tons.			Value.			Quantity in tons.			Value.		
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	Up.	Down.	Total.	Rs.	Tons.	Rs.	Up.	Down.	Total.	Rs.	Tons.	Rs.	Up.	Down.	Total.	Rs.	Tons.	Rs.
Timber in logs, round and squared	...	191	124	7,440	124	7,440	...	630	620	45,110	631	43,750	...	774	774	52,550	755	51,220
Stoppers, broad gauge	...	35,362	35,322	25,80,533	35,403	25,34,533	...	19,069	18,059	6,77,221	17,900	6,72,203	...	53,131	33,491	35,14,054	53,292	33,09,841
" metre "	...	12,759	12,700	7,61,054	12,750	7,61,054	...	3,632	3,632	95,330	3,794	94,910	...	10,432	10,422	8,50,380	16,364	8,35,895
Scantlings	...	14,310	14,310	2,95,917	14,310	2,95,917	...	1,552	1,932	1,00,500	1,850	1,04,700	...	10,162	16,162	4,02,617	16,130	4,00,617
Bamboos and reeds	4	6	90	6	90	...	6	6	90	8	90
Firewood
Total	...	62,650	62,568	39,90,914	62,656	39,90,914	...	24,209	24,209	9,24,557	23,951	9,13,218	...	80,705	80,795	49,03,501	86,587	47,98,163

I-E. with Appendix A.

STATEMENT OF AREAS IRRIGATED BY IRRIGATION WORKS IN THE PUNJAB DURING THE YEAR 1916-17.

NAMES OF CANALS.		AREA IRRIGATED, IN ACRES.										AVERAGE DISCHARGE, IN CUSECS.				AREA IRRIGATED, PER CUSEC.					
		NUMBER OF DRAINAGE WORKS.		Kharif.		Rabi.		Total.		Flow.	Mile.	DOUBLE CROPPED.		AT HEAD less TOUCHING ESCAPED.		AT DISTRIBUTARY HEADS.		AT HEAD less VOLUME AS CAPED.		AT DISTRI- BUTARY HEADS.	
Area Irrigated.	Area Un-irrigated.	Area Irrigated.	Area Un-irrigated.	Area Irrigated.	Area Un-irrigated.	Area Irrigated.	Area Un-irrigated.	Area Irrigated.	Area Un-irrigated.	Area Irrigated.	Area Un-irrigated.	Area Irrigated.	Area Un-irrigated.	Area Irrigated.	Area Un-irrigated.	Area Irrigated.	Area Un-irrigated.	Area Irrigated.	Area Un-irrigated.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Major Irrigation Works.																					
Western Jhelum Canal (including Sialkot Branch, Jhelum and Pothohar).	161	173	317,913	343,674	170,744	459,975	423,437	317,723	317,723	11,120	62,929	7-59	2,590	3,209	2,165	2,605	120	150	161	184	
Sialkot Canal (Jhelum).	125	184	333,790	320,774	27,410	320,774	301,784	333,790	333,790	3,337	290,469	22-47	3,615	3,031	2,755	2,602	92	183	191	210	
" " (Pothohar, Sialkot and Jhelum).	125	184	211,114	210,425	31,275	231,975	231,975	231,975	231,975	2,913	199,061	22-78	2,151	1,813	2,170	1,923	83	178	97	199	
Upper Bari Doab Canal.	119	182	579,209	511,721	31,294	617,483	1,201,197	1,121,221	1,121,221	10,633	214,610	20-33	1,563	2,219	3,911	1,726	117	255	148	368	
Lower Bari Doab Canal.	171	173	218,413	122,125	25,403	142,716	61,491	272,911	319,567	1,429	12,508	2-4	3,122	1,779	2,429	1,423	70	149	103	187	
Upper Chenab Canal.	101	162	1-2,917	270,159	151,769	137,914	4,747	317,493	331,731	2,733	16,311	3-73	2,913	2,114	2,415	1,678	67	72	117	90	
Lower Chenab Canal.	117	171	717,270	712,121	1,571,479	1,25,879	32-47,29	2,153,513	2,153,513	26,011	163,973	7-17	9,653	9,929	7,617	5,535	79	230	84	234	
Upper Jhelum Canal.	160	182	93,413	2,012	75,101	72,157	117,565	111,189	117,565	...	3,104	2-71	493	200	369	475	72	110	116	159	
Lower Jhelum Canal.	168	182	23,427	216,113	24,561	238,671	64,761	758,518	758,518	2,712	16,313	2-63	2,763	2,618	2,254	2,350	89	216	108	243	
Upper Sutlej Canal.	147	...	122,579	142,383	160,291	170,491	313,161	262,917	310,145	3,665	31,105	10-0	2,668	...	6,487	117	...	147	...	...
Sidhwal Canals.	63	35	111,233	99,525	153,253	120,038	298,526	249,191	211,197	6,297	631	0-23	1,895	...	1,395	214	...	214	...	...
Indus Irrigation Canals.	112	25	179,011	140,170	95,217	67,910	23,123	268,359	232,771	12,391	6,607	2-3	3,314	...	8,314	59	...	59	...	...
Total.	...	...	3,431,657	3,321,223	3,321,223	4,769,192	9,193,867	7,909,695	...	...	...	...	...	...	...	...	...	...	...	...
Minor Irrigation Works.																					
Shabbar (Imperial) Irrigation Canal.	170	...	12,063	19,207	270,59	23,671	10,709	11,851	10,707	62	793	1-0	570	...	570	53	...	53	...	...
Obaggar Irrigation Canal (British).	67	26	10,137	9,121	18,099	17,309	28,157	24,720	23,227	...	...	...	725	...	725	39	...	39	...	...
" " (British).	...	...	3,251	3,214	8,756	9,694	12,717	16,292	12,910	...	727	0-63	231	...	231	51	...	51	...	...
Lower Sutlej Irrigation Canal.	151	18	120,671	127,192	214,311	154,123	3,374	320,611	312,526	21,053	17	4-65	3,405	...	3,465	105	...	105	...	...
Chowah Irrigation Canal.	171	...	14,776	76,765	111,719	11,111	26,712	172,371	172,371	2,331	608	0-31	2,355	...	2,355	88	...	88	...	...
Musafargarh Irrigation Canals.	179	17	100,639	125,621	223,779	215,619	298,453	276,672	294,115	1,013	24,730	13-6	5,331	...	5,331	72	...	72	...	...
Shabbar (Provincial) Irrigation Canal.	122	...	6,453	6,719	21,519	23,025	31,104	29,715	31,104	...	27	0-09	403	...	403	73	...	73	...	...
Total.	...	...	452,318	197,452	633,669	653,615	1,085,937	933,697	...	...	...	...	...	...	...	...	...	...	...	...

APPENDIX A TO STATEMENT I. E.

STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED DURING THE YEAR 1916-17.

CAUSE OF REMISSION.	Kharif, 1916.				Rabi, 1916-17.			
	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.
1	2	3	4	5	6	7	8	9
WESTERN JUMNA CANAL.								
1. Wrong assessment ...	Acres.	Acres.	Acres.		Acres.	Acres.	Acres.	
2. Escape irrigation	53	...	...	...	53	...	...
3. Under Tenancy Rules	210	...	...	...	16	...	...
4. Short supply	1	...	...	...	1	...	...
5. Hail	2,110	...	...	...	1,060	...	...
6. Frost	5	...	...	...	...	...	...
7. High wind
8. Flooding { (a) by heavy rain	...	247	...	...	...	90	...	...
{ (b) from canal	...	31	...	...	...	17	...	...
9. Rats
10. Locusts	83	...	...	...	...	...	...
11. Other insects and blight	910	...	...	...	204	...	...
12. Bad germination or cultivation	...	414	...	...	...	51	...	...
13. Bad soil	21	...	...	...	18	...	...
14. High land
15. Miscellaneous	123	...	...	...	302	...	...
Total ...	342,058	(A) 4,855	217,913	1.39	478,005	(A) 1,879	450,544	0.39
SIRHIND CANAL (IMPERIAL).								
1. Wrong assessment	10	...	...	...	19	...	...
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply	23	...	...	...	4,801	...	...
5. Hail	22	...	...	...	596	...	...
6. Frost	38	...	...
7. High wind	29	...	...	...	13	...	...
8. Flooding { (a) by heavy rain	...	23	...	...	...	...	...	...
{ (b) from canal	...	3	...	...	...	28	...	...
9. Rats
10. Locusts	11	...	...	...	...	...	...
11. Other insects and blight	2,108	...	...	...	495	...	...
12. Bad germination or cultivation	...	23	...	...	...	34	...	...
13. Bad soil	5	...	...
14. High land
15. Miscellaneous	317	...	...	...	1,740	...	...
Total ...	330,776	2,814	333,591	0.84	550,703	7,423	558,191	1.33
UPPER BARI DOAB CANAL.								
1. Wrong assessment	29	...	...	...	23	...	...
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply	49	...	...	...	12,511	...	...
5. Hail	1,376	...	...
6. Frost
7. High wind	160	...	...
8. Flooding { (a) by heavy rain	...	8,102	...	...	...	81	...	...
{ (b) from canal
9. Rats
10. Locusts	55	...	...	...	...	...	...
11. Other insects and blight	5,183	...	...	...	41	...	...
12. Bad germination or cultivation	...	59	...	...	...	2	...	...
13. Bad soil	42	...	...	...	137	...	...
14. High land
15. Miscellaneous	669	...	...	...	174	...	...
Total ...	554,733	14,655	569,388	2.64	617,183	14,508	631,991	2.32
LOWER BARI DOAB CANAL.								
1. Wrong assessment	131	...	...	...	73	...	...
2. Escape irrigation
3. Under Tenancy Rules	92,100	...	...	...	80,207	...	...
4. Short supply	607	...	...	...	7,818	...	...
5. Hail	873	...	...
6. Frost
7. High wind
8. Flooding { (a) by heavy rain	...	125	...	...	...	10	...	...
{ (b) from canal	...	59	...	...	...	70	...	...
9. Rats
10. Locusts
11. Other insects and blight	1,616	...	...	...	854	...	...
12. Bad germination or cultivation	...	2,244	...	...	...	5,593	...	...
13. Bad soil	14,426	...	...	...	18,363	...	...
14. High land	203	...	...	...	497	...	...
15. Miscellaneous	6,775	...	...	...	9,170	...	...
Total ...	180,125	118,319	298,444	47.05	142,710	123,777	266,487	40.45

(A) Detail of area remitted—

	Kharif.	Rabi.
In the four Divisions ...	4,433	1,824
In Patiala State ...	242	19
In Jind State ...	176	42
Total ...	4,855	1,879

STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED
DURING THE YEAR 1916-17—CONTINUED.

CAUSE OF REMISSION.	KHAMPT, 1916.				RABT, 1916-17.			
	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.
	2	3	4	5	6	7	8	9
UPPER CHENAB CANAL.								
1. Wrong assessment	Acres.	Acres.	Acres.		Acres.	Acres.	Acres.	
2. Escape irrigation	...	80	...	...	...	12	...	...
3. Under Tenancy Rules
4. Short supply	...	730	...	...	...	13,160	...	...
5. Hail	...	1,000	...	...	...	120	...	...
6. Frost
7. High wind
8. Flooding { (a) by heavy rain (b) from canal	...	993	...	...	...	2	...	...
9. Rats
10. Locusts	...	355	...	...	...	...	...	...
11. Other insects and blight
12. Bad germination or cultivation	...	609	...	...	...	...	...	...
13. Bad soil	...	2,027	...	...	...	281	...	...
14. High land
15. Miscellaneous
16. Perpetual remission	...	016	...	...	...	60	...	...
17. Dog Nallah
Total	270,479	6,488	285,917	2.25	137,614	13,640	161,660	9.6
LOWER CHENAB CANAL.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply
5. Hail	...	110	...	...	...	31,302	...	...
6. Frost	...	107	...	...	...	22,747	...	...
7. High wind
8. Flooding { (a) by heavy rain (b) from canal	...	688	...	...	...	10	...	...
9. Rats	...	8	...	...	...	2	...	...
10. Locusts	...	112	...	...	...	...	...	...
11. Other insects and blight	...	8	...	...	...	...	...	...
12. Bad germination or cultivation	...	516	...	...	...	78	...	...
13. Bad soil	...	349	...	...	...	1,632	...	...
14. High land	...	186	...	...	...	2,957	...	...
15. Miscellaneous	...	1,061	...	...	...	155	...	...
Total	712,126	3,146	715,270	0.44	1,668,249	63,110	1,671,450	4.01
UPPER JHELUM CANAL.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply
5. Hail	2,760	...	...
6. Frost
7. High wind
8. Flooding { (a) by heavy rain (b) from canal	...	111	...	...	...	...	...	...
9. Rats	...	141	...	...	...	...	...	...
10. Locusts
11. Other insects and blight
12. Bad germination or cultivation	...	25	...	...	...	...	...	...
13. Bad soil	...	29	...	...	...	...	...	...
14. High land	126	...	...
15. Miscellaneous	130	...	...
Total	42,012	401	42,413	0.04	72,177	3,015	75,192	0.04
LOWER JHELUM CANAL.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules	...	1,064	...	...	...	...	...	...
4. Short supply	...	9	...	...	...	1,012	...	...
5. Hail	...	2	...	...	...	3,804	...	...
6. Frost	699	...	...
7. High wind
8. Flooding { (a) by heavy rain (b) from canal	...	3	...	...	...	...	...	...
9. Rats
10. Locusts
11. Other insects and blight
12. Bad germination or cultivation	...	31	...	...	...	493	...	...
13. Bad soil	...	1,358	...	...	...	191	...	...
14. High land	...	101	...	...	...	...	...	...
15. Miscellaneous	...	10	...	...	...	164	...	...
Total	237,413	2,584	239,997	1.08	558,871	5,803	564,764	1.04

**STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED
DURING THE YEAR 1916-17—CONTINUED.**

CAUSE OF REMISSION.	KARNAT, 1916.				RANI, 1916-17.			
	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.
1	2	3	4	5	6	7	8	9
UPPER SUTLEJ INUNDATION CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply	4,912	...	...	...	...	...	...
5. Hail
6. Frost
7. High wind
8. Flooding { (a) by heavy rain (b) from canal	...	5,149	...	...	...	...	...	...
9. Rats
10. Locusts
11. Other insects and blight	146	...	...	...	...	...	...
12. Bad germination or cultivation
13. Bad soil
14. High land
15. Miscellaneous
Total ...	142,876	10,201	153,080	6.7	160,891	...	100,691	...
SIDHNAI CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply	4,675	...	...	...	23,166	...	...
5. Hail
6. Frost
7. High wind
8. Flooding { (1) by heavy rain (2) from canal (3) from river	...	43	...	...	...	...	...	...
9. Rats
10. Locusts
11. Other insects and blight	71	...	...	...	...	...	...
12. Bad germination or cultivation	11,173	...	...	...	...	...	...
13. Bad soil	7,128	...	...
14. High land
15. Miscellaneous	75	...	...	...	3,276	...	...
Total ...	98,596	16,037	114,933	18.95	150,998	32,025	183,628	17.77
INDUS INUNDATION CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply	10,606	...	...	...	1,564	...	...
5. Hail	1,332	...	...
6. Frost
7. High wind	1,190	...	...	...	1,872	...	...
8. Flooding { (1) by rain (2) from canal (3) hill torrent (4) from river	...	217 431 1,436 1,571	...	...	...	...	...	...
9. Rats
10. Locusts
11. Other insects and blight	53	...	...	...	701	...	...
12. Bad germination or cultivation	11,263	...	...
13. Bad soil	22,103	...	...	...	...	...	...
14. High land	1,624	...	...	...	...	...	...
15. Scanty water	93	...	...
16. Scanty rain	652	...	...
17. Miscellaneous
Total ...	140,470	39,471	179,941	21.03	67,910	17,367	85,217	20.80

**STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED—
DURING THE YEAR 1916-17—CONTINUED.**

CAUSE OF REMISSION.	Kharif, 1916.				Rabi, 1916-17.			
	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.
1	2	3	4	5	6	7	8	9
	Acres.	Acres.	Acres.		Acres.	Acres.	Acres.	
CHENAB INUNDATION CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply
5. Hail	6,601	...	...	...	1,874	...	...
6. Frost
7. High wind
8. Flooding { (1) by rain	2,872	...	...	...	...	...	...
(2) from canal
(3) from river
9. Rats
10. Locusts
11. Other insects and blight
12. Bad germination or cultivation	...	7	...	...	...	...	...	...
13. Bad soil	17	...	...	...	...	...	...
14. High land	6,415	...	...	...	5,637	...	...
15. Miscellaneous	62	...	...	...	830	...	...
Total ...	76,553	17,004	93,557	18.18	101,171	7,317	111,518	6.58
LOWER SUTLEJ INUNDATION CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply
5. Hail	92	...	...	...	8	...	...
6. Frost
7. High wind	4,770	...	...
8. Flooding { (a) by heavy rain	...	6,547	...	...	...	...	...	...
(b) from canal	...	42	...	...	...	...	...	...
9. Rats
10. Locusts
11. Other insects and blight
12. Bad germination or cultivation	...	608	...	...	...	169	...	...
13. Bad soil	250	...	...	...	...	...	...
14. High land	12,802	...	...	...	4,303	...	...
15. Miscellaneous	1,454	...	...	...	12,134	...	...
Total ...	127,102	21,881	149,078	14.68	193,421	21,300	214,811	9.05
MUZAFFARGARH INUNDATION CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply	8,440	...	...	...	1,892	...	...
5. Hail	14	...	...
6. Frost
7. High wind
8. Flooding { (a) by heavy rain	...	2,490	...	...	...	...	...	...
(b) from canal
9. Rats	13	...	...
10. Locusts
11. Other insects and blight
12. Bad germination or cultivation	...	615	...	...	...	65	...	...
13. Bad soil	4,175	...	...	...	688	...	...
14. High land	9,889	...	...
15. Miscellaneous	8,040	...	...	...	1,609	...	...
Total ...	155,023	14,656	169,650	8.6	215,049	13,720	228,769	6.0

**STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED
DURING THE YEAR 1916-17—CONCLUDED.**

CAUSE OF REMISSION.	KHARIF, 1916.				RABI, 1916-17.			
	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.
1	2	3	4	5	6	7	8	9
SHAHPUR IMPERIAL CANALS.	Acres.	Acres.	Acres.		Acres.	Acres.	Acres.	
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply
5. Hail
6. Frost
7. High wind
8. Flooding { (a) by heavy rain (b) from canal
9. Rate	44	...	...	...	...	...	...
10. Locusts
11. Other insects and blight	163	...	...	...	...	...	...
12. Bad germination or cultivation	...	163	...	...	...	...	...	...
13. Bad soil
14. High land
15. Miscellaneous	1,412	...	...
Total ...	19,307	370	19,683	1.91	25,074	1,412	27,086	5.21
GHAGGAR CANALS.								
1. Wrong assessment	3	...	...
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply	813	...	...	...	781	...	...
5. Hail
6. Frost
7. High wind	1,788	...	...
8. Flooding { (a) by heavy rain (b) from canal
9. Rate
10. Locusts
11. Other insects and blight
12. Bad germination or cultivation
13. Bad soil
14. High land
15. Miscellaneous	20	...	...	...	...	...	...
Total ...	12,068	(A) 833	13,491	6.17	24,301	(B) 2,572	23,970	9.57
SHAHPUR PROVINCIAL CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules	110	...	...	...	1,133	...	...
4. Short supply
5. Hail
6. Frost
7. High wind
8. Flooding { (a) by heavy rain (b) from canal
9. Rate	20	...	...	...	...	...	...
10. Locusts
11. Other insects and blight
12. Bad germination or cultivation	390	...	...
13. Bad soil
14. High land
15. Miscellaneous
Total ...	9,719	130	9,856	2.0	23,020	1,523	24,549	6.3
					(A)	(B)		
British	813	784		
Bikaner	20	1,788		
Total ...					833	2,572		

II.E.
STATEMENT SHOWING INCIDENCE OF WORKING EXPENSES AND ASSESSED WATER REVENUE ON THE CANALS IN THE PUNJAB DURING 1916-17.

NAMES OF CANALS.	WATER-RATE ASSESSED IN 1916-17.										WORKING EXPENSES.				OCCUPIERS' RATES.		TOTAL WATER RATE DIRECT AND INDIRECT.						
	Average discharge of the year at canal head in cusecs.	Occupiers.		Owners.		Total direct.		Indirect.		Total direct and indirect.		Gross assessed revenue from all sources.		Working expenses, direct and indirect.		Area assessed during 1916-17.		Per cent on gross revenue.		Per acre assessed.		Per cusec of discharge.	
		3	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.
MAJOR IRRIGATION WORKS.																							
Western Jumna Canal (including Sirsa Branch, British and Patiala).	3,052	30,19,883	...	30,19,883	2,08,310	32,28,193	33,57,117	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sirhind Canal (British)	3,360	35,31,358	...	35,31,358	1,42,791	36,77,149	38,14,738	13,87,160	50,15,399	36,16	1,57	36,16	1,57	414	4,01	1,055	417	1,098	...	...	...	...	...
" " (Patiala, Nabha and Jind States)	2,182	23,17,590	...	23,17,590	...	23,17,590	21,23,586	...	53,2,890	38,90	1,77	...	...	493	4,36	1,062	4,36	1,062	...	...	...	...	...
Upper Bari Doab Canal	3,540	41,24,059	...	41,24,059	6,48,873	47,92,931	61,39,331	14,10,123	1,17,2,221	27,66	1,21	...	...	401	3,63	1,165	4,09	1,361	...	...	...	...	...
Lower Bari Doab Canal	2,460	10,77,419	...	10,77,419	3,02,931	12,80,343	13,17,319	5,26,358	37,2,641	47,89	3,20	...	...	268	3,95	440	4,69	523	...	...	...	...	...
Upper Chenab Canal	2,529	21,97,410	...	21,97,410	5,84,987	23,72,397	22,96,299	8,98,261	417,393	28,91	2,00	...	...	331	5,48	901	6,88	1,130	...	...	...	...	...
Lower Chenab Canal	7,950	83,93,140	...	83,93,140	7,41,8,563	1,57,93,738	1,59,93,178	27,19,783	3,22,0,473	17,11	1,23	...	...	812	3,77	1,066	7,11	1,985	...	...	...	...	...
Upper Jhelum Canal	491	3,61,100	...	3,61,100	...	3,61,100	3,69,943	5,40,798	114,189	173,21	5,01	...	...	1,303	3,16	733	8,10	733	...	...	...	...	...
Lower Jhelum Canal	2,662	27,31,670	...	27,31,670	17,61,053	44,92,363	45,60,617	9,83,923	716,281	21,67	1,24	...	...	370	3,43	1,028	5,06	1,889	...	...	...	...	...
Upper Sutlej Canals	2,808	4,04,140	...	4,04,140	3,27,480	6,27,020	6,42,595	4,11,398	302,947	69,08	1,45	...	...	163	1,83	151	2,07	235	...	...	...	...	...
Sirhind Canals	1,395	4,96,863	...	4,96,863	1,31,311	6,33,197	6,32,812	1,59,013	349,691	26,12	0,03	...	...	114	1,09	363	3,61	460	...	...	...	...	...
Indus Irrigation Canals	3,314	3,27,705	...	3,27,705	3,73,500	6,01,205	5,93,431	3,98,601	268,380	70,74	1,91	...	...	120	1,09	89	3,41	161	...	...	...	...	...
MINOR IRRIGATION WORKS.																							
Sholapur (Imperial) Irrigation Canals	570	1,09,480	...	1,09,480	42,082	1,51,568	1,61,690	47,175	44,931	31,11	1,04	...	...	83	2,43	182	3,67	208	...	...	...	...	...
Chaggar Irrigation Canals (British)	725	22,673	...	22,673	...	22,676	22,278	30,480	16,232	131,09	2,08	...	...	42	2,20	31	2,30	31	...	...	...	...	...
" " (Bikaner)	231	427,016	...	427,016	...	27,610	27,933	16,130	26,730	22,08	0,30	...	...	35	1,93	118	1,03	118	...	...	...	...	...
Lower Sutlej Irrigation Canals	3,465	3,51,273	...	3,51,273	3,03,700	6,60,972	6,91,333	2,39,727	330,613	36,23	0,74	...	...	69	1,10	101	2,05	100	...	...	...	...	...
Chenab Irrigation Canals	2,585	2,11,421	...	2,11,421	2,45,795	4,61,216	4,61,738	1,55,791	180,721	33,51	0,86	...	...	65	1,10	90	2,55	193	...	...	...	...	...
Muzaffargarh Irrigation Canals	5,634	3,22,967	...	3,22,967	4,10,610	7,39,576	7,54,219	3,61,425	370,073	46,39	0,94	...	...	84	0,87	63	2,00	134	...	...	...	...	...
Sholapur (Provincial) Irrigation Canals	438	49,509	...	49,509	20,338	70,047	71,047	47,660	29,745	67,01	1,00	...	...	109	1,66	114	2,37	103	...	...	...	...	...
Ravi Irrigation Canals	...	...	...	...	3,222	3,223	3,223	2,404	...	74,68	...	...	...	...	...	...	...	...	...	...	...	...	...

* Includes Rs. 41,237 actually spent by the Patiala State.
 † Includes Rs. 5,035 actually spent by the Bikaner State.
 ‡ Figures reported by the Bikaner State.

III-E.

**STATEMENT OF QUANTITY AND VALUE OF CROPS IRRIGATED IN THE
PUNJAB DURING THE YEAR 1916-17.**

STATEMENT OF QUANTITY AND VALUE OF CROPS

NAME OF CROPS.			WESTERN JERMA CANAL.		SARAYF CANAL (BARTON).		SARAYF CANAL (NATIVE STATES BRANCHES).		UPPER BART DOWS CANAL.	
English.	Vernacular.	Scientific.	Area assessed to water-meters.	Estimated value.	Area assessed to water-meters.	Estimated value.	Area assessed to water-meters.	Estimated value.	Area assessed to water-meters.	Estimated value.
1	2	3	4	5	6	7	8	9	10	11
Cereals—			Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.
Wheat	Gahun	Triticum sativum	239,270	1,10,13,600	27,682	1,20,88,844	169,651	71,00,739	249,830	1,16,61,833
Barley	Joo	Hordeum vulgare	15,759	5,67,491	60,087	21,92,430	62,577	10,30,907	5,378	1,65,478
Rice	Shona	Oryza sativa	20,833	7,61,692	11	419	6,847	1,81,197	87,584	3,67,669
Millet	Makki	Zea mays	2,231	75,851	89,233	23,20,772	41,800	15,02,404	74,509	21,62,501
Oats	Jawi	Avena sativa	54,270	16,22,800	17	659	21,209	8,49,329	3,009	69,150
Mixed Grain	Berra	...	2,769	60,409	892	20,769	2,368	51,978	129,484	46,46,340
Miscellaneous	...	...	...	...	...	...	...	...	7,710	1,70,240
Milllets and pulses—			...	...	...	...	...	...	...	...
Great Millet	Jawar	Eleusine indica	109,623	6,39,169	16,099	1,77,058	911	10,331	...	...
Spiked Millet	Bajra	Pennisetum glaucum	16,391	2,02,091	6,034	1,77,478	2,021	81,499	3,710	63,070
Italian Millet	Kanuni	Setaria italica	...	...	...	...	...	...	612	19,303
...	Mandua	Eleusine coracana	120	2,620	...	...	16	237	...	...
...	Savank	Panicum imbricatum	...	...	...	...	13	197	...	...
Gram	Chana	Cicer arietinum	66,285	20,53,695	162,657	10,61,676	35,657	9,58,074	73,037	17,07,708
Lentil	Masur	Ervum lens	6,917	1,30,240	189	4,119	177	6,310	5,023	64,609
Peanut	Molliar	Pisum sativum	1,432	23,000	...	...	41	1,230	...	...
...	Mash	Phaseolus radiatus	47	900	22	609	72	2,169	487	12,099
...	Mung	Phaseolus mungo	573	11,060	161	3,029	173	3,029	173	4,325
...	Moth	Phaseolus acutifolia	499	7,720	7,531	1,13,205	240	4,035	15,101	7,79,025
Mixed Grain	Guar	Cyamopsis tetragonoloba	7,469	1,19,035	20,020	6,77,780	1,145	34,500	10,997	2,61,425
...	Berra	...	...	...	...	...	...	...	16	670
Miscellaneous	Maddal	Panicum millacum	...	...	22	770	22	770	210	1,450
...	...	...	6,568	1,34,320	...	...	...	...	1,775	54,525
Dries and Spices—			...	...	...	...	...	...	...	...
Tobacco	Tamaku	Nicotiana glauca	523	31,350	29	2,320	8	649	1,103	63,670
Poppy	Post	Papaver somniferum	...	...	...	...	...	...	...	...
Aniseed and Dill	Ajwain	Foeniculum ajacum	1	...	...	...	...	...	...	...
Peppercorn	Molli	Piper nigrum	11,671	2,49,275	...	...	...	...	...	...
Coriander	Dhaini	Coriandrum sativum	697	20,175	35	1,470	19	740	23	1,163
Cumin	Zira	Commiphora officinalis	...	...	...	...	...	...	...	...
Turnip	Molli	Brassica napus	...	...	...	...	...	...	1	70
Aniseed	Samut	Pimpinella anisum	8	329	...	...	1	40	4	129
Miscellaneous	Kandi	...	...	...	...	...	21	427	4	60
Fibres—			...	...	...	...	...	...	...	...
Cotton	Uoi	Gossypium herbaceum	62,507	61,72,100	10,509	6,02,094	29,813	18,40,111	147,021	69,21,591
Alseella Hemp	Fau	Hibiscus cannifolius	211	5,850	3,107	1,02,210	1,145	31,059	2,777	83,353
False Hemp	Samut	Crotalaria juncea	1,263	49,500	...	...	...	...	672	16,970
Miscellaneous	Munjkana	Eriocaulum unguiculatum	...	...	...	...	...	...	...	...
Dyes—			...	...	...	...	...	...	...	...
Indigo	Nili	Indigofera tinctoria	11,551	2,59,850	...	...	545	19,075	...	...
Henna	Alehndi	Lawsonia alba	...	...	...	...	...	...	...	...
Safflower	Kasumbhi	Carthamus tinctorius	290	7,800	...	...	...	...	...	...
Miscellaneous	...	...	...	...	...	...	...	...	...	...
Oil-seeds—			...	...	...	...	...	...	...	...
Groundnut or Sesame	Til	Persea indica	125	3,275	209	6,270	18	470	2,211	65,270
Pap	Erson	Brassica campestris	15,273	3,06,810	7,011	1,76,276	7,297	1,82,128	8,523	2,47,437
Do.	Tuna	Da (F. indica)	47	1,075	97	2,425	3	75	2,473	7,01,017
Linseed Flax	Taramira	Erucas sativa	2	50	282	8,059	658	16,103	475	13,253
Miscellaneous	Alsi	Linum catharticum	3	75	8	125	...	...	...	...
Fruits and Vegetables—			...	...	...	...	...	...	...	...
Orchards	Mirch	Carapellum annuum	725	29,000	294	29,400	533	23,300	2,713	1,03,310
Chillies	Kharbura	Capsicum melo	1,149	27,470	5,110	2,65,700	1,425	71,800	1,332	73,297
Carrots	Gajar	Daucus carota	355	15,000	177	6,520	...	...	...	...
Cress	Halum	Lepidium sativum	201	6,100	64	1,320	59	1,790	...	...
Onions	Piaz	Allium cepa	409	22,800	...	...	8	409	44	2,630
Turnips	Saigram	Brassica rapa	...	...	454	20,470	...	...	8,401	3,29,440
Water-nuts	Singhara	Trapa bicornis	132	6,280	...	...	3,342	2,31,200	21	1,600
Gardens	...	...	6,629	6,65,030	667	69,700	...	...	6,791	6,69,109
Potatoes	Alu	Solanum tuberosum	83	6,300	...	...	410	23,700	649	54,700
Vegetables	Tarkari	...	2,221	1,55,470	2,177	1,52,300	...	...	3,913	2,73,810
Miscellaneous	Lehsan	...	31	620	417	18,410	...	...	1,451	44,470
Fodder—			...	...	...	...	...	...	...	...
Lacorno Grass	Lusan Ghas	Medicago sativa	1,613	64,520	3	75	...	...	981	22,800
Grass	Parji	Do. Var	451	9,775	24,993	43,760	24,330	6,06,020	63,173	27,94,622
Millets, etc.	Ghas	...	69	1,075	237	7,110	418	18,640	723	11,745
Sugarcane	Charhi	...	13,106	3,29,180	189,010	54,18,440	113,403	34,02,000	183,037	38,91,710
...	Malua	...	...	...	...	...	...	...	10	290
...	Yama	Saccharum officinarum	92,025	62,87,470	1,704	2,62,416	3,078	6,12,344	42,165	81,70,770
Miscellaneous	Shafal	...	4	60	...	...	1,793	10,758	...	...
...	Methra	...	...	...	...	...	1,513	21,360	134	2,890
Total			801,995	3,61,72,915	680,174	2,93,43,107	624,166	1,95,46,441	1,172,221	4,32,73,047
Fallows	...	...	2,737	...	12,743	...	7,914	...	2,195	...
Single watering	...	...	7,149	...	...	...	...	...	12,163	...
Plantations	...	...	11	...	...	...	...	...	...	...
Miscellaneous	...	...	969	...	2,622	...	...	...	...	...
Waste of water	...	...	7,860	...	...	...	...	...	...	...
Salvage	...	...	...	...	...	...	...	...	...	...
GRAND TOTAL			821,723	3,61,72,915	691,639	2,93,43,107	632,080	1,95,46,441	1,172,221	4,32,73,047

*This includes 2,100 acres

E.

IRRIGATED IN THE PUNJAB DURING THE YEAR 1916-17.

LOWER BHAIR DODD CANAL.		UPPER CHENAB CANAL.		LOWER CHENAB CANAL.		UPPER JHELUM CANAL.		LOWER JHELUM CANAL.		UPPER SUTLEJ INUNDATION CANALS (INCLUDING LOWER SOKRA AND PAR).	
Area assessed to water-ribs.	Estimated value.	Area assessed to water-ribs.	Estimated value.	Area assessed to water-ribs.	Estimated value.	Area assessed to water-ribs.	Estimated value.	Area assessed to water-ribs.	Estimated value.	Area assessed to water-ribs.	Estimated value.
12	13	14	15	16	17	18	19	20	21	22	23
Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.
101,092	42,45,441	01,190	25,04,871	001,419	1,07,06,722	60,770	22,71,781	99,723	1,35,68,802	54,081	19,07,708
2,010	76,410	0,051	84,110	16,141	3,49,247	2,290	61,189	0,100	2,09,430	1,011	35,412
0,871	3,30,028	204,503	1,02,40,156	12,384	20,44,032	5,110	2,15,712	0,305	3,02,010	20,618	12,82,784
10,180	2,35,003	7,001	1,40,020	107,062	21,02,498	2,679	28,305	12,480	4,02,046	7,010	81,460
522	21,090	17	878	878	21,120	12	451	8,838	5,03,440	895	16,850
1,740	37,200	331	9,800	5,917	1,71,670	207	7,979	..	..	54,470	16,34,100
..	..	8	100	..	..	..	..	..	..	..	..
30,870	4,01,050	10,010	3,42,288	22,470	5,18,889	9,075	1,41,110	79,814	13,78,832	60,612	12,18,240
4,500	1,80,000	723	18,722	29,090	5,03,221	12,070	2,02,190	71,859	7,84,775	7,857	1,89,608
511	8,679	52	1,200	170	4,299	16	177	24	700	1,491	37,025
..
0	189	23	290	299	5,760	31	465	601	19,365	..	6,000
2,070	79,102	7,657	1,07,097	01,829	11,12,074	943	1,189	2,093	41,000	330	0,00,347
43	1,200	260	7,600	2,732	82,600	216	10,771	11,117	3,00,160	39,317	5,800
1,001	82,029	..	..	5,081	1,01,689	..	6,450	3,354	00,725	178	740
501	16,000	..	..	41	630	..	..	548	10,940	37	..
..	..	..	..	1,224	39,700	..	..	4,200	..	..	..
2,889	58,723	11	278	201	5,021	12	210	22	120	42	1,209
1,601	39,726	..	..	5,871	1,14,827	81	2,100	1,031	25,775	232	6,050
619	13,725	491	0,009	4,767	1,08,025	..	..	2,292	58,900	4,206	85,820
..	..	..	..	1,328	17,225	..	..	..	..	..	..
20	330	50	1,180	4,157	89,140	59	2,725	5,126	1,02,620	..	878
..	..	..	..	..	..	..	..	..	..	218	3,105
106	8,400	303	31,199	2,810	2,00,500	75	0,000	1,302	1,04,109	7	420
..
127	3,178	..	..	..	..	..	..	..	..	..	..
12	480	..	..	651	22,040	..	..	..	22,000	380	14,760
122	4,853	..	..	..	..	30	1,140	..	..	325	8,000
..
..	..	..	..	84	1,300	..	..	..	..	..	..
1	16	..	..	14	210	..	..	..	..	..	..
..
38,082	18,23,872	20,893	6,80,293	1,79,447	61,62,010	2,807	67,683	71,611	2,42,712	12,654	0,02,632
181	5,430	554	10,779	1,036	40,000	80	2,670	493	14,789	451	15,620
..	..	67	2,610	2,189	65,700	49	1,470	193	12,090	8	45
..	..	..	..	37	990	..	..	..	..	..	..
..
21	960	..	..	163	4,120	..	..	..	..	..	..
..	..	10	360	32	800	..	..	1	169	..	..
..	..	..	..	13	300	41	1,230	210	0,870	85	878
..	..	..	..	..	..	..	..	131	4,029	..	..
7,060	1,83,804	070	14,700	2,413	61,733	1,000	40,329	7,421	38,788	6,200	1,20,880
7,100	2,80,809	3,720	87,138	66,110	12,16,788	629	15,000	5,500	1,50,069	104	2,468
10,002	3,09,418	7,272	1,30,104	2,10,071	66,18,369	1,077	1,17,771	85,012	22,60,830	935	6,480
1,134	27,216	601	1,102	9,089	61,889	113	2,712	1,60,324	1,60,324	275	7,000
5	120	64	1,495	1,709	63,031	16	640	333	0,324	1	24
..	..	..	..	80	2,089	..	..	..	..	..	..
..
11	833	24	1,020	680	67,129	..	..	..	7,128	245	12,250
0,093	3,04,100	1,612	82,100	66,103	17,68,160	1,638	10,160	10,802	0,43,200	14	120
80	2,400	1	40	292	11,080	8	210	108	4,920	10	670
40	1,470	..	..	..	..	7	210	43	1,280	..	..
10,427	4,17,090	5,510	2,30,810	82,078	21,07,130	2,108	67,090	10	870	2	100
16	1,800	24	2,100	2,720	2,72,000	11	1,100	8,080	14,99,860	12,073	4,32,820
1,183	82,810	007	12,030	67	3,700	..	..	..	..	280	23,500
..	..	10	670	494	14,620	102	7,140	1,083	1,17,610	0	500
..	..	..	..	..	..	..	..	..	..	04	5,749
..
170	8,600	47	2,160	10,474	9,73,700	5	250	2,622	1,41,000	7	350
1,807	80,010	5,204	1,50,120	88,630	20,80,090	309	10,800	6,454	2,53,620	565	16,850
081	19,020	824	21,720	2,017	87,610	6,850	1,08,500	4,471	1,34,130	16,582	1,35,020
2,700	81,000	11,339	3,16,770	1,96,450	35,82,820	..	..	3,004	90,120	..	..
3	75	3,222	66,725	4,003	80,004	183	3,325	1,223	31,825	..	..
1,327	1,05,670	7,635	7,01,005	66,147	69,82,650	291	20,301	8,078	8,67,300	1,009	2,20,125
..	..	85	..	902	67,100	30	1,500	4,410	2,20,600	..	..
415	10,375	..	2,127	0,492	1,82,173	8	75	677	24,425	174	1,350
40	080	..	..	7,232	21,610	6	120	6,160	1,33,000	..	..
298,382	83,80,314	4,05,831	1,04,78,492	2,315,001	8,50,10,245	113,508	30,62,234	791,221	2,53,26,798	302,01	69,53,212
..
8,448	..	0,810	..	6,294	..	..	..	..	..	..	..
40	..	0	..	107	..	080	..	4,803	..	..	..
..	..	..	..	14	..	..	..	2,288	..	76	..
..	..	..	..	..	..	..	..	48	..	..	..
..
273,841	83,98,816	417,383	1,81,78,492	2,820,471	8,50,16,242	114,168	86,62,234	799,300	2,62,26,700	802,047	80,62,212

omitted under Tenancy Rules.

STATEMENT OF QUANTITY AND VALUE OF CROPS IRRIGATED

NAMES OF CROPS.			SIDHAI CANAL.		INDRA INDIAN CANALS.		SHARDA (INDRA) INDIAN CANALS.		GHAGGAR CANALS (DATTI).	
English.	Vernacular.	Scientific.	Area assessed to water-rails.	Estimated value.	Area assessed to water-rails.	Estimated value.	Area assessed to water-rails.	Estimated value.	Area assessed to water-rails.	Estimated value.
1	2	3	21	22	26	27	28	29	30	31
Cereals—										
Wheat	Gobun	Triticum sativum	103,140	49,51,008	43,701	18,02,085	18,620	8,18,717	4,370	2,18,050
Bajray	Ju*	Hordenum vulgare	3,130	75,131	1,253	30,789	171	4,176	—	—
Rice	Jhona	Oryza sativa	7,885	2,04,400	50,171	13,44,104	633	22,031	5,069	3,29,384
Maise	Makhi	Zea mays	2,607	32,091	18	216	107	2,461	—	—
Oats	Jawi	Avena sativa	—	—	—	—	203	3,045	—	—
Mixed Grain	Norra	—	—	—	—	—	—	—	7,633	1,80,823
Miscellaneous	—	—	1,304	36,050	—	—	—	—	—	—
Milllets and Pulses—										
Great Millet	Jawar	Sorghum vulgare	33,301	3,40,611	29,983	6,55,077	6,620	1,22,760	359	1,649
Spiked Millet	Dajra	Panicum spicatum	9,091	2,39,784	19,677	6,46,548	1,720	47,000	—	—
Italian Millet	K. nani	Setaria italica	123	2,460	84	2,520	—	—	—	—
—	Mandwa	Pennisetum polystachyon	253	10,450	209	6,530	—	—	—	—
—	Sawant	Pennisetum polystachyon	—	—	1,041	25,820	62	1,240	—	—
Gram	Chana	Cicer arietinum	14,823	2,90,640	8,422	1,68,440	3,408	92,016	2,990	1,07,730
Lentil	Masur	Ervum lens	323	6,880	68	2,010	216	3,210	—	—
—	Kasani	—	307	5,956	—	—	—	—	—	—
Pasa	Mattar	Pisum sativum	704	16,890	4,304	1,00,200	—	—	—	—
—	Mach	Phaseolus radiatus	6,783	3,06,670	—	—	—	—	—	—
—	Kong	Phaseolus mungo	213	4,600	48	1,800	—	—	—	—
—	Muth	Phaseolus acutifolia	213	3,000	2,702	67,660	23	330	—	—
Mixed Grain	Quav	Cynopodia procurrens	—	—	—	—	—	—	754	18,820
—	Norra	—	3,784	85,810	63	946	213	3,180	—	—
—	Chosna	—	—	—	—	—	—	—	—	—
Miscellaneous	Kaddal	—	140	2,222	—	—	—	—	469	7,037
Drugs and Spices—										
Tobacco	Tamaku	Nicotiana glauca	383	10,120	2,105	3,74,400	37	1,850	—	—
Poppy	Post	Papaver somniferum	—	—	—	—	—	—	—	—
Aniseed and Dill	Ajwain	Pimpinella ajwain	—	—	—	—	—	—	—	—
Fenugreek	Melhi	Trigonella foenum-graecum	—	—	—	—	—	—	—	—
Coriander	Dhania	Coriandrum sativum	102	7,040	30	400	—	—	16	490
Cumin	Zira	Communis odinense	—	—	39	1,820	—	—	—	—
Mustard	Haldi	Curcuma longa	—	—	—	—	—	—	—	—
Aniseed	Ranfi	Pimpinella anisum	—	—	10	200	—	—	—	—
Miscellaneous	Kasni	—	9	135	—	—	—	—	—	—
Fibres—										
Cotton	Rui	Gossypium herbaceum	3,328	1,15,222	15,161	4,49,316	7,069	3,22,105	—	—
Rupella Hemp	Sau	Urena cannabina	95	3,920	—	—	—	—	—	—
Pale Hemp	Sawal	Crotalaria lancea	—	—	—	—	15	215	—	—
Miscellaneous	Bhunjiana	Saccharum munja	—	—	—	—	—	—	—	—
Dyes—										
Indigo	Nili	Indigofera tinctoria	413	12,310	4,427	2,17,600	—	—	—	—
Henna	Melindi	Lawsonia alba	—	—	23	2,080	—	—	—	—
Safflower	Kasumbha	Carthamus tinctorius	—	—	—	—	—	—	—	—
Miscellaneous	—	—	—	—	—	—	—	—	—	—
Oil-seeds—										
Mustard or Sesame	Til	Sesamum indicum	18,181	4,35,000	301	7,231	79	1,991	—	—
Rare	Saron	Brassica campestris	217	7,209	80	2,160	3	72	397	9,025
Do.	Toria	Brassica campestris	4,572	1,17,948	—	—	178	4,372	—	—
Mustard Flax	Tavaria	Linum catharticum	3,841	67,218	2,421	7,104	190	4,590	—	—
Miscellaneous	Alei	Linum catharticum	—	—	21	—	—	—	308	2,700
Fruits and Vegetables—										
Orchards	Mitch	Carya annua	133	5,310	203	21,210	—	—	—	—
Chillies	Kharbura	Cucumis melo	31	225	19	950	219	6,617	—	—
Melons	Bajar	Daucus carota	—	—	16	520	—	—	—	—
Carrots	Hidam	Lepidion sativum	—	—	—	—	—	—	—	—
Cress	Pir	Allium cepa	—	—	22	380	—	—	—	—
Onions	Balsam	Brassica rapa	10,424	3,29,920	1,593	74,990	—	—	—	—
Turnips	Singhara	Lappa bicoloris	—	—	—	—	74	7,400	13	1,370
Water-melons	—	—	—	—	—	—	—	—	—	—
Gardens	Alu	Solanum tuberosum	127	4,475	229	23,600	—	—	—	—
Potatoes	Tikari	—	389	23,240	551	29,570	43	2,940	—	—
Vegetables	Lahan	—	—	—	—	—	—	—	—	—
Miscellaneous	—	—	—	—	—	—	—	—	—	—
Fodder—										
Lucerne Grass	Lusan Ghas	Medicago sativa	—	—	1	20	—	—	—	—
Grass	Benji	Do. Var.	—	—	3	60	—	—	—	—
Millet, etc.	Chahi	—	4,531	46,240	1	—	2,649	80,980	—	—
—	Maina	—	18,231	2,17,540	7,397	2,81,809	—	—	—	—
Sugarcane	Ganna	Saccharum officinarum	103	23,100	67	7,125	43	4,300	—	—
—	Shafal	—	2,323	61,780	137	2,740	4	200	—	—
Miscellaneous	Mahra	—	1,370	80,550	133	1,995	2,161	31,160	—	—
Grand Total										
Total			219,894	81,17,064	305,980	60,47,377	44,991	13,64,037	29,677	8,89,847
Fallows	—	—	—	—	—	—	—	—	—	—
Single watering	—	—	—	—	—	—	—	—	—	—
Plantations	—	—	—	—	—	—	—	—	—	—
Miscellaneous	—	—	—	—	—	—	—	—	—	—
Waste of water	—	—	—	—	—	—	—	—	—	—
Palaver	—	—	—	—	—	—	—	—	—	—
Grand Total			219,894	81,17,064	305,980	60,47,377	44,991	13,64,037	29,677	8,89,847

*Includes 1,243 acre.

CONCLUDED.

IN THE PUNJAB DURING THE YEAR 1916-17—CONCLUSION.

[illegible]

IV-E.

COMPARATIVE STATEMENT OF IRRIGATION AND RAINFALL FOR THE YEARS 1918-17 AND 1915-10 IN THE PUNJAB.

CIVIL DISTRICT	OF THE CIVIL DISTRICT.				Name	Culturable area commanded by Irrigation Works in column 5, in acres.	Area at present proposed to be annually irrigated by works specified in column 5.	AREA IRRIGATED IN ACRES.				RAINFALL, INCHES.		
	Total area, in acres.	Culturable area, in acres.	Cultivated area, in acres.	1916-17.				1915-16		1918-17.	1915-10.			
				Kharif.				Rabi.	Total.			Kharif.	Rabi.	Total.
1	2	3	4	5	(a) 5	(a) 7	8	9	10	11	12	13	14	15
Delli	387,680	291,248	230,883	Western Jumna Canal	69,707	37,413	10,566	12,447	23,013	10,972	22,727	33,090	23,90	18,45
Rohatk	1,439,113	1,337,521	1,157,708		072,473	260,381	85,787	119,061	205,728	88,533	123,138	200,959	19,31	10,85
Karnal	1,937,805	1,721,529	1,121,976		043,144	243,355	84,371	118,101	204,372	81,409	123,147	204,554	24,69	14,85
Ambala	1,198,684	873,260	748,221		4,805	2,493	1,519	1,233	2,752	3,753	1,260	1,304	2,564	52,25	21,78
Hissar	3,318,830	3,163,686	2,700,336	Western Jumna Canal Sirhind Canal Ghaggar Canals	517,413	225,737	102,703	145,259	247,952	118,650	131,957	250,613	17,78	5,69
					34,100	9,780	2,715	2,908	5,583	2,305	3,016	5,321	8,306	17,70	5,15
				Total	72,578	46,831	10,237	18,000	28,327	4,218	17,788	22,008		
					521,821	283,351	115,716	160,257	281,972	135,179	152,761	277,910		
Jind State	852,013	807,434	749,528	Western Jumna Canal Sirhind Canal	210,223	60,000	29,002	85,231	64,253	26,143	31,714	57,857	21,23	13,40
					8,200	3,071	10,110	21,072	(b) 40,182	17,193	28,757	(c) 46,900		
				Total	227,442	63,071	15,113	53,863	104,435	43,336	61,481	104,817		
Bikaner State	4,007,210	3,926,488	1,145,684	Western Jumna Canal Ghaggar Canals	1,762	480	324	637	961	483	85	508	17,65	2,88
					3,1618	17,309	3,254	8,786	12,040	12	3,153	3,163	3,163	13,91	2,22
				Total	30,380	17,789	3,578	9,433	13,001	495	3,241	3,730		
Patiala State	3,704,779	3,463,459	2,012,533	Western Jumna Canal Sirhind Canal	179,060	59,301	72,949	40,745	79,091	35,103	23,041	53,749	18,49	10,11
					313,902	108,018	210,704	323,203	533,067	204,419	382,866	687,285		
				Total	492,022	167,919	213,053	370,006	(d) 013,861	239,527	411,507	(e) 051,034		
Kalsia State	131,753	87,502	76,253	Western Jumna Canal Sirhind Canal	2,451	1,382	813	910	1,722	721	797	1,518		
					12,900	3,231	1,031	3,360	4,907	1,314	2,269	3,573		
				Total	15,350	4,613	2,443	4,276	6,719	2,085	3,056	5,091		
Ludhiana	892,512	816,282	720,186	Sirhind Canal	289,452	70,507	25,550	32,557	58,413	28,735	35,283	83,906	17,32	9,14
Ferozpur	2,505,290	2,440,504	2,252,121		1,258,231	431,607	203,818	337,110	570,808	171,468	412,721	687,169	15,10	5,28
Nabha State	680,480	688,273	604,712		145,273	30,817	38,477	51,470	(f) 92,953	38,503	84,570	(g) 103,382		
Faizlur State	405,249	388,153	371,055		231,137	79,709	45,873	73,881	118,737	84,887	74,072	116,359		
Amritsar	998,006	805,173	758,303	Upper Bari Doab Canal	600,402	281,985	183,087	209,342	398,859	161,201	209,825	871,128	27,05	12,81
Gurdaspur	1,165,408	943,046	827,364		127,038	53,450	51,778	33,782	53,782	88,510	47,054	52,514	70,558	21,78	16,51

Lahore	1,750,968	1,515,817	1,222,637	Upper Bari Doab Canal Upper Sutlej Inundation Canals Upper Chenab Canal Lower Bari Doab Canal Total	866,216 231,805 3,685 7,826 1,173,219	457,530 93,956 1,873 2,311 361,167	330,811 20,232 1,873 2,311 361,167	388,227 32,271 860 1,911 133,308	719,038 53,503 2,772 4,162 781,635	281,580 20,300 500 1,488 303,917	412,931 28,455 1,190 1,583 414,154	594,510 43,765 1,750 3,058 748,071	32,62 25,83 18,42 ...	64 5,65 ...
Montgomery	2,747,759	2,531,874	928,085	Upper Sutlej Inundation Canals Hajwari Canal Lower Bari Doab Canal Total	617,911 850,952 1,468,863 771,736	235,298 535,533 771,736	193,228 154,016 310,166	128,320 307 190,911 325,563	251,518 380,957 630,031 781,635	113,897 92,370 200,235 303,917	110,404 134,008 244,193 450,391	223,981 223,376 450,391	12,54 12,90 ...	1,90 1,95 ...
Multan	3,811,257	3,376,405	1,179,071	Sutlej Canal Chenab Inundation Canals Lower Sutlej Inundation Canals Hajwari Canal Lower Bari Doab Canal Total	314,159 360,313 805,162 463,310 2,013,934 753,501	150,000 250,000 250,000 213,626 813,934 352,000	114,933 134,307 134,001 62,146 419,617 159,673	183,623 111,579 181,778 29,697 677,611 223,681	293,566 207,015 319,778 12,624 1,932,7 393,334	117,999 81,167 109,570 12,624 21,186 137,037	162,161 86,778 146,293 14,921 32,723 239,373	270,180 170,485 258,103 27,355 63,802 37,331	6,96 8,63 9,15 ...	3,72 0,78 0,79 ...
Muzaffargarh	3,687,301	3,080,970	753,501	Muzaffargarh Inundation Canals	674,932	352,000	159,673	223,681	393,334	137,037	239,373	37,331	4,31	0,78
Dera Ghazi Khan	3,476,190	2,511,165	1,153,327	Indus Inundation Canals	422,923	302,760	179,911	85,217	263,153	135,134	97,517	235,641	8,00	1,92
Gujranwala	2,492,310	2,277,745	1,454,931	Lower Chenab Canal Upper Chenab Canal Total	715,501 1,225,101 1,940,602	104,606 474,270 678,855	104,053 214,592 318,645	317,535 124,327 440,862	485,598 337,219 822,817	165,283 122,039 277,691	387,471 139,029 496,799	512,434 202,256 774,690	21,81 35,69 ...	5,15 4,10 ...
Lyalpur	2,104,210	1,904,819	1,469,369	Lower Chenab Canal Upper Chenab Canal Total	1,482,432 95,493 1,577,925	1,089,034 61,411 1,150,445	419,537 20,811 439,348	1,014,150 13,196 1,027,346	1,503,307 10,637 1,513,944	408,430 8,120 416,570	1,079,974 19,015 1,098,119	1,437,524 27,105 1,514,689	13,44 1,63 ...	2,28 1,4 ...
Jhang	2,171,717	1,981,614	836,423	Lower Chenab Canal Muzaffargarh Inundation Canals Lower Jhelum Canal Total	330,856 333,033 713,363 820,150	233,140 154,876 388,022 601,532	98,350 41,367 139,733 191,663	109,473 67,110 239,092 439,971	297,821 128,177 430,125 664,434	88,190 37,533 135,133 175,069	195,692 99,660 280,291 517,329	284,131 127,592 411,777 892,998	9,63 10,44 ...	3,28 3,84 ...
Shahpur	3,072,726	2,312,708	1,298,297	Shahpur (Imperial) Canals Shahpur (Provincial) Canals Upper Jhelum Canal Total	820,150 62,954 48,840 953,224	42,000 21,170 888 609,650	10,083 9,863 22,101 12,503	27,088 21,549 73 4,007	48,769 31,404 72 7,793	9,420 4,537 4,160 11,860	17,580 14,367 9,430 117,633	26,769 18,594 6,047 13,588	30,06 30,08 ...	3,83 3,83 ...
Gujrat	1,456,110	1,167,520	880,091	Lower Jhelum Canal Upper Jhelum Canal Total	18,637 500,498 519,135	12,503 302,374 314,877	43,413 40,430 59,311	75,120 82,903 8,138	117,633 129,383 67,449	4,160 4,160 27,844	9,430 9,430 6,047	13,588 13,588 33,891	...	...
Sialkot	1,282,291	1,135,222	918,010	Upper Chenab Canal GRAND TOTAL	182,395 17,003,713	53,438 8,260,786	39,311 3,893,815	8,138 6,080,039	67,449 0,579,824	27,844 3,240,183	6,047 5,694,628	33,891 8,694,811	30,18 ...	11,96 ...

(a) Columns 6 and 7 exclude the "culturable area commanded" and "area at present proposed to be annually irrigated" by the Native States Branches of the Sirhind Canal.

(b) Includes 27,725 acres irrigated on the Native States Branches of the Sirhind Canal.

(c) Ditto 478,254 acres irrigated by the Sirra Branch, Western Jammu Canal, in the Patiala State.

(d) Ditto 478,254 acres irrigated by the Sirra Branch, Western Jammu Canal, in the Patiala State.

(e) Ditto 50,655 acres irrigated by the Sirra Branch, Western Jammu Canal, in the Patiala State.

(f) Ditto 57,096 acres irrigated by the Sirra Branch, Western Jammu Canal, in the Patiala State.

STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17.

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per.
			Flow.	Lift.	
		WESTERN JUMNA CANAL INCLUDING SIRSA BRANCH.	Rs A. P.	Rs. A. P.	
		OCCUPIER'S RATE.			
Irrigation Branch Notifi- cation No. 097 R. I., dated 30th June 1916.	I	Sugarcane	10 0 0	6 0 0	Crop.
	II	Rice and water nuts	8 8 0	4 0 0	Do.
	III	Orchards, gardens, tobacco, poppy, drugs, vege- table, sp.oes, melons	5 8 0	3 8 0	Gardens and orchards per half-year, the rest per crop.
	III-A	Wheat	5 0 0	3 4 0	Crop.
	IV	Cotton, fibres, dyes, oil-seeds and all rabi crops except wheat, gram, masur, senji, maina and turnips.	4 0 0	2 8 0	Do.
	V	All kharif crops not otherwise specified	3 0 0	1 12 0	Do.
	VI	Gram, masur, senji, turnips, carrots and maina	2 8 0	1 8 0	Do.
	VII	Crops grown on th "scadh" of a previous crop Single watering before ploughing not followed by a canal irrigated crop in the same or next harvest	1 4 0	0 12 0	{ Crop. Watering.
	VIII	Grass, village and District Board plantations— For any number of waterings in kharif season	1 4 0	0 12 0	Half-year.
		For one watering in rabi season	1 4 0	0 12 0	Do.
		For two or more waterings in rabi season	2 8 0	1 8 0	Do.
		LOWER CHAUTANG NALA CANAL.			
		OCCUPIER'S RATE.			
Irrigation Branch Notifi- cation No. 1631 I., dated 27th April 1900.	I	Sugarcane, rice, water-nuts	4 2 0	2 12 0	Crop.
	IV	Cotton, indigo maize	2 8 0	1 10 8	Do.
	V	Other kharif crops	1 12 0	1 2 8	Do.
	VII	Special rate—Single watering before ploughing for rabi followed by a crop	1 2 0	0 12 0	Do.
		SIRHIND CANAL.			
		ZONE I.			
		<i>All lands irrigated by the British Branches of the Sirhind Canal with the exception of those situated in the Fazilka Tahsil of the Feroze- pore District.</i>			
Irrigation Branch Notifica- tion No. 278 R. I., dated 21st December 1904 ...	I	Sugarcane	12 0 0	6 0 0	Crop.
	II	Rice, orchard, gardens, poppy, indigo, dyes, drugs and spices, water-nuts, maize, wheat, vegetables, except turnips	5 4 0	2 10 0	Orchards and gardens per- half-year; the rest per crop.
	III	Cotton, chillies, melons, tobacco, fibres, barley, oil-seeds, berse, senji, all non-fodder crops in kharif and rabi not specified	4 0 0	2 0 0	Crop.
	IV	Bajra, Jowar, ohari, moth, mung, masur, guar, चना, masur, gram, turnips, peas, and all kharif and rabi fodder crops not specified	3 4 0	1 10 0	Do.
Irrigation Branch Notifica- tion No. 824 R. I., dated 12th May 1913.	V	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest Also crops grown on the "scadh" of a previous crop	1 8 0	0 12 0	{ Each watering. Crop.
	VI	Special rates which may be made applicable to channels selected by the Local Government— A single watering before ploughing followed by a rabi crop	2 4 0	1 2 0	

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per
			Flow.	Lift.	
		SIRHIND CANAL—CONCLUDED.	RS. A. P.	RS. A. P.	
		Zone II.			
		<i>All lands irrigated by the British Branches of the Sirhind Canal in the Fazilka Taluk of the Ferozepore District.</i>			
Irrigation Branch Notification No. 278 R. I., dated 21st December 1904.	I	Sugarcane	10 0 0	5 0 0	Crop.
	II	Rice, orchards, gardens, poppy, indigo, dyos, drugs and spices, water-nuts, maize, wheat, vegetables (except turnips)	5 0 0	2 8 0	Orchards and gardens per half-year; the rest per crop.
	III	Cotton, chillies, melons, tobacco, fibres, barley, oil seeds, herbs, saff, all non-fodder crops in kharif and rabi not specified	8 12 0	1 14 0	Crop.
	IV	Bajra, jowar, chani, moli, mung, mash, guar, china, masur, gram, turnips, peas and all kharif and rabi fodder crops not specified	9 0 0	1 8 0	Do.
Irrigation Branch Notification No. 624 R. I., dated 13th May 1918.	V	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest	1 8 0	0 12 0	Each watering.
		Also crops grown on the "seed" of a previous crop			Crop.
		<i>All lands irrigated by other than the British Branches of the Sirhind Canal.</i>			
Irrigation Branch Notification No. 6616 I., dated 27th November 1888.	I	Sugarcane, rice, water-nuts	7 8 0	5 0 0	Crop.
	II	Gardens, orchards, tobacco, poppy, vegetables, indigo, maize	4 8 0	3 0 0	Do.
	III	Cottons, fibres, all dyes (except indigo), all rabi crops (except gram and masur)	3 12 0	2 8 0	Do.
	IV	All kharif crops not specified above and rabi crops of gram and masur	2 10 0	1 12 0	Do.
Irrigation Branch Notification No. 624 R. I., dated 12th May 1918.	V	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest	0 12 0	0 8 0	Each watering.
	VI	Special rate which may be made applicable to channels selected by the Local Government.			
		A single watering before ploughing for rabi followed by a rabi crop	1 8 0	1 0 0	Crop.

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per.
			Flow.	Lift.	
		UPPER BARI DOAB CANAL.	Rs. A. P.	Rs. A. P.	
		OCCUPIER'S RATE.			
Irrigation Branch Notification No. 2821 I., dated 10th June 1891.	I	Sugarcane and water-nuts	7 1 0	8 8 6	Crop.
	II	Rice	8 0 10	8 0 5	Do.
	III	Orchards and gardens, tobacco, poppy and other drugs, vegetables, melons	4 8 8	2 4 4	Orchards and gardens per half-year; the rest per crop.
	IV	All dyes, fibres and oilseeds; all rabi crops except gram and masur	8 12 0	1 14 3	Crop.
	V	All kharif crops not specified above; rabi crops of gram and masur; all fodder crops	2 12 5	1 6 2½	Do.
	VI	Special rates, which may be made applicable to channels selected by the Local Government: a single watering before ploughing for rabi followed by a crop	2 0 4	1 0 2	Do.
Irrigation Branch Notification No. 628 R. I., dated 12th May 1913.	VII	A single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest Crops grown on the "wadā" of a previous crop	1 0 2	0 8 1	Each watering. Crop.
	VIII	Village plantations on areas to which the provisions of Act III of 1893 have been extended and District Board plantations within the Chunian Colony—			
Irrigation Branch Notifications No. 849 R. I., dated 26th March 1907; No. 638 R. I., dated 11th December 1907; No. 930 R. I., dated 2nd July 1908.		For any number of waterings in the kharif season	1 3 4	0 9 8	Half-year.
		For one watering in rabi season	1 3 4	0 9 8	Do.
		For two or more waterings in rabi season	2 11 7	1 6 0	Do.
		LOWER BARI DOAB CANAL.			
		OCCUPIER'S RATE.			
Irrigation Branch Notification No. 647 R. I., dated 23rd April 1913.	I	Cane and water nuts	9 0 0	4 8 0	Crop.
	II	Rice	7 8 0	3 12 0	Do.
	III	Orchards, gardens, tobacco, poppy, indigo, drugs, vegetables, melons and wheat	5 0 0	2 8 0	Orchards and gardens per half-year; rest per crop.
	IV	Cotton, fibres, dyes (other than indigo), oilseeds and all rabi crops, except wheat, gram, masur, senji, maida and turnips	4 0 0	2 0 0	Crop.
	V	All kharif crops not otherwise specified	3 0 0	1 8 0	Do.
	VI	(a) Gram, masur, senji, turnips and maida (b) Crops grown on the "wadā" of a previous crop. (c) Single watering before ploughing for rabi followed by a rabi crop to be applicable only to channels selected by the Local Government.	2 4 0	1 2 0	(a) Crop, (b) and (c) acre.
	VII	Grass, village and District Board plantations—			
		For any number of waterings in kharif season	1 4 0	0 10 0	Half-year.
		For one watering in rabi season	1 4 0	0 10 0	Do.
		For two or more waterings in rabi season	2 8 0	1 4 0	Do.
	VIII	(a) Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest. (b) Hemp (gun) and indigo which has been ploughed in as green manure before the 15th September.	0 8 0	0 4 0	Acre.

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Pec.
			Flow.	Lift.	
			Rs. A. P.	Rs. A. P.	
UPPER CHENAB CANAL.					
OCCUPIER'S RATE.					
Irrigation Branch Notification No. 6228 R. I., dated 8th August 1912.	I	Cane and water-nuts	9 0 0	4 8 0	Crop.
	II	Rice	7 8 0	3 12 0	Do.
	III	Orchards, gardens, tobacco, poppy, indigo, drugs, vegetable, melons and wheat	5 0 0	2 8 0	Orchards and gardens per half-year; rest per crop.
	IV	Cotton, fibres, dyes (other than indigo), oilseeds and all rabi crops, except wheat, gram, masur, senji, grains and turais	4 0 0	2 0 0	Crop.
	V	All kharif crops not otherwise specified	3 0 0	1 8 0	Do.
	VI	(a) Gram, masur, senji, turais and mains (b) Crops grown on the "wast" of a previous crop. (c) Single watering before ploughing for rabi followed by a rabi crop to be applicable only to channels selected by the Local Government.	2 4 0	1 2 0	(a) Crop, (b) and (c) acre.
Irrigation Branch Notification No. 55 R. I., dated 18th January 1918.	VII	Grass, village and District Board plantations— For any number of waterings in the kharif season For one watering in rabi season For two or more waterings in rabi season	1 4 0 1 4 0 2 8 0	0 10 0 0 10 0 1 4 0	Half-year. Do. Do.
	VIII	(a) Single watering before ploughing not followed by a canal-irrigated crop in the same or the next harvest. (b) Hemp (gan) and indigo which has been ploughed as green manure before the 15th September.	0 8 0	0 4 0	Acre.
	LOWER CHENAB CANAL.				
	OCCUPIER'S RATE.				
	<i>Applicable to—</i>				
	(a) all estates in the Gujranwala District which were established before the 1st January 1892;				
	(b) all estates in the Jhang District which were established before 1st January 1892, except those which were transferred from the Montgomery to the Jhang District by Revenue and Agriculture Notification No. 870 of 4th May 1899; and such proprietary wells as are now or may hereafter be included within the boundaries of the Colony manure;				
	(c) all estates in the Gujara and Montgomery Tehsils of the Montgomery District which were established before 1st January 1894; and				
	(d) all estates in the Multan and Lahore Districts which were established before 1st April 1902.				

**STATEMENT SHOWING OCCUPIER'S RATE/IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per
			Flow.	Lift.	
			Rs. A. P.	Rs. A. P.	
		LOWER CHENAB CANAL—CONTINUED.			
		OCCUPIER'S RATE—continued.			
Irrigation Branch Notification No. 617 R. I., dated 18th June 1903.	I	Sugarcane, water-nuts	8 0 0	4 4 0	Crop.
	II	Rice	8 12 0	8 10 0	Do.
	III	Orchards, gardens, tobacco, poppy, indigo, drugs, vegetables, melons	5 8 0	3 0 0	Orchards and gardens per half-year; the rest per crop.
	IV	Cotton, fibres, dyes (other than indigo), oilseeds, maize and all rabi crops (except gram and masur)	4 4 0	2 5 0	Crop.
	V	All kharif crops not otherwise specified, and gram and masur	3 0 0	1 12 0	Do.
Irrigation Branch Notification No. 688 R. I., dated 12th May 1918.	VI	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest	1 12 0	1 2 0	Each watering.
		Also crops grown on the "wadā" of a previous crop			Crop.
	VII	Single watering before ploughing for rabi followed by a rabi crop, to be applicable only to channels selected by the Local Government	2 4 0	1 6 0	Acro.
	VIII	Grass—			
		For any number of waterings in the kharif season	1 4 0	0 10 0	Half-year.
Irrigation Branch Notification No. 6141 R. I., dated 12th October 1903		For one watering in the rabi season	1 4 0	0 10 0	Do.
		For two or more waterings in the rabi season	2 8 0	1 4 0	Do.
		<i>Applicable to estates other than those referred to in Notification No. 617 R. I., dated 18th June 1903, above.</i>			
	I	Sugarcane	7 8 0	3 12 0	Crop.
	II	Rice	5 4 0	3 2 0	Do.
Irrigation Branch Notification No. 82 R. I., dated 6th January 1892.	III	Orchards, gardens, tobacco, indigo, vegetables, poppy, dhanlo, zira, saunf, melons	5 0 0	2 8 0	Orchards and gardens per half-year; the rest per crop.
	IV	Cotton, fibres, dyes (other than indigo), oilseeds, maize and all rabi crops (except gram and masur)	3 12 0	1 14 0	Crop.
	V	All kharif crops not otherwise specified, and gram and masur	2 8 0	1 4 0	Do.
	VI	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest	1 4 0	0 10 0	Each watering.
	VII	Also crops grown on the "wadā" of a previous crop			Crop.
Irrigation Branch Notification No. 688 R. I., dated 12th May 1918.	VIII	Grass, village plantations in Colony villages, and District Board plantations in the Colony—			
		For any number of waterings in the kharif season	1 4 0	0 10 0	Half-year.
		For one watering in the rabi season	1 4 0	0 10 0	Do.
		For two or more waterings in the rabi season	2 8 0	1 4 0	Do.
Irrigation Branch Notifications No. 6141 R. I., dated 12th October 1903, and No. 813 R. I., dated 19th December 1905, and No. 701 R. I., dated 11th December 1907.					

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		For.																																																																																				
			Flow.	Lift.																																																																																					
		LOWER CHENAB CANAL—CONTINUED. OCCUPIER'S RATE—concluded. Applicable to the following estates selected by the Local Government.	Rs. A. P.	Rs. A. P.																																																																																					
		<table><tr><th>Division.</th><th>District.</th><th>Settlement arrangement circle.</th><th>No. of Chaks and Branch.</th></tr><tr><td>Upper Gugera.</td><td>Gujranwala</td><td>Gugera Branch I.</td><td>537, 578 and 530, Gugera Branch.</td></tr><tr><td>Lower Gugera.</td><td>Lyallpur</td><td>Ditto</td><td>71 and part of 75 and 161, Gugera Branch.</td></tr><tr><td rowspan="4">Lyallpur</td><td>Lyallpur...</td><td>Jhang Branch I.</td><td>167 and half of 25, Jhang Branch.</td></tr><tr><td>Jhang ...</td><td>Ditto</td><td>120, 120, 127, 141, 144, 144, 173, 153, 170 and 167, Jhang Branch.</td></tr><tr><td>Lyallpur</td><td>Jhang Branch II.</td><td>221, 221, 225, 220 and 220, Jhang Branch.</td></tr><tr><td>Jhang</td><td>Ditto</td><td>122, 122, 125, 120, 127, 163, 208, 209, 212, 211, 216, 217, 220, 221, 247, 210, 210, 217, 277, 275, 270 and 270, Jhang Branch.</td></tr><tr><td rowspan="2">Jhang...</td><td>Lyallpur...</td><td>Jhang Branch III.</td><td>307, 308, 310, 401, 402, 406, 400, 410, 411, 412, 438 and 430, Jhang Branch.</td></tr><tr><td>Jhang ...</td><td>Ditto</td><td>412, 417, 410, 417, 418, 410, 410, 411, and 407, Jhang Branch.</td></tr><tr><td>Lower Gugera.</td><td>Lyallpur...</td><td>Gugera Branch I.</td><td>110, 207 and 240, Gugera Branch.</td></tr><tr><td>Jhang ...</td><td>Ditto ...</td><td>Jhang Branch III.</td><td>421, 331, 310, 317, 373, 470 and 410, Jhang Branch.</td></tr><tr><td>Ditto ...</td><td>Jhang ...</td><td>Jhang Branch II.</td><td>170, Jhang Branch.</td></tr><tr><td>Lower Gugera.</td><td>Lyallpur ...</td><td>Gugera Branch II.</td><td>274, 275, 317, 328, 329, 310 and 310, Gugera Branch.</td></tr><tr><td>Bahawal ...</td><td>Ditto ...</td><td>Ditto</td><td>507, 501, 502, 503, 501, 506, 512, 515 and 516, Gugera Branch.</td></tr><tr><td>Khaniki ...</td><td>Gujranwala</td><td>...</td><td>11, 122 and 250, Bakh Branch.</td></tr><tr><td>Upper Gugera.</td><td>Ditto</td><td>...</td><td>12, 12, 20, 30, 31, 24 and 40, Bakh Branch.</td></tr><tr><td>Ditto</td><td>Lyallpur...</td><td>...</td><td>27, 01, 107 and 100, Bakh Branch.</td></tr><tr><td>Lahore</td><td>Ditto ...</td><td>...</td><td>175, 211, 217, 215, 240 and 241, Bakh Branch.</td></tr><tr><td>Jhang ...</td><td>Jhang ...</td><td>-</td><td>405, 475, 470, 470, 480, 491, 491, 480, 480, 405, 406, 400, 503, 501 and 500, Jhang Branch.</td></tr><tr><td>Bahawal ...</td><td>Lyallpur...</td><td>...</td><td>167, 578, 761, 765, 887, 615, 618, 616, 621, 622 and 623, Bahawal Branch.</td></tr><tr><td>Lower Gugera.</td><td>Ditto ...</td><td>...</td><td>321, Gugera Branch, Lower.</td></tr><tr><td>Upper Gugera.</td><td>Ditto ...</td><td>...</td><td>508, Gugera Branch, Upper.</td></tr></table>	Division.	District.	Settlement arrangement circle.	No. of Chaks and Branch.	Upper Gugera.	Gujranwala	Gugera Branch I.	537, 578 and 530, Gugera Branch.	Lower Gugera.	Lyallpur	Ditto	71 and part of 75 and 161, Gugera Branch.	Lyallpur	Lyallpur...	Jhang Branch I.	167 and half of 25, Jhang Branch.	Jhang ...	Ditto	120, 120, 127, 141, 144, 144, 173, 153, 170 and 167, Jhang Branch.	Lyallpur	Jhang Branch II.	221, 221, 225, 220 and 220, Jhang Branch.	Jhang	Ditto	122, 122, 125, 120, 127, 163, 208, 209, 212, 211, 216, 217, 220, 221, 247, 210, 210, 217, 277, 275, 270 and 270, Jhang Branch.	Jhang...	Lyallpur...	Jhang Branch III.	307, 308, 310, 401, 402, 406, 400, 410, 411, 412, 438 and 430, Jhang Branch.	Jhang ...	Ditto	412, 417, 410, 417, 418, 410, 410, 411, and 407, Jhang Branch.	Lower Gugera.	Lyallpur...	Gugera Branch I.	110, 207 and 240, Gugera Branch.	Jhang ...	Ditto ...	Jhang Branch III.	421, 331, 310, 317, 373, 470 and 410, Jhang Branch.	Ditto ...	Jhang ...	Jhang Branch II.	170, Jhang Branch.	Lower Gugera.	Lyallpur ...	Gugera Branch II.	274, 275, 317, 328, 329, 310 and 310, Gugera Branch.	Bahawal ...	Ditto ...	Ditto	507, 501, 502, 503, 501, 506, 512, 515 and 516, Gugera Branch.	Khaniki ...	Gujranwala	...	11, 122 and 250, Bakh Branch.	Upper Gugera.	Ditto	...	12, 12, 20, 30, 31, 24 and 40, Bakh Branch.	Ditto	Lyallpur...	...	27, 01, 107 and 100, Bakh Branch.	Lahore	Ditto	175, 211, 217, 215, 240 and 241, Bakh Branch.	Jhang ...	Jhang ...	-	405, 475, 470, 470, 480, 491, 491, 480, 480, 405, 406, 400, 503, 501 and 500, Jhang Branch.	Bahawal ...	Lyallpur...	...	167, 578, 761, 765, 887, 615, 618, 616, 621, 622 and 623, Bahawal Branch.	Lower Gugera.	Ditto	321, Gugera Branch, Lower.	Upper Gugera.	Ditto	508, Gugera Branch, Upper.			
Division.	District.	Settlement arrangement circle.	No. of Chaks and Branch.																																																																																						
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Lower Gugera.	Lyallpur ...	Gugera Branch II.	274, 275, 317, 328, 329, 310 and 310, Gugera Branch.																																																																																						
Bahawal ...	Ditto ...	Ditto	507, 501, 502, 503, 501, 506, 512, 515 and 516, Gugera Branch.																																																																																						
Khaniki ...	Gujranwala	...	11, 122 and 250, Bakh Branch.																																																																																						
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Irrigation Branch Notifi- cation No. 0276 R. I., dated 26th August 1912.																																																																																									
Irrigation Branch Notifi- cation No. 90 R. I., dated 22nd January 1913.																																																																																									
Irrigation Branch Notifi- cation No. 3301 R. I., dated 21st September 1914.																																																																																									
Irrigation Branch Notifi- cation No. 016 R. I., dated 1st June 1915.																																																																																									
Irrigation Branch Notifi- cation No. 112 R. I., dated 30th January 1912.	IV	Cotton fibres, dyers, other than indigo, oilseeds, maize, and all rabi crops except gram and masur ...	3 0 0	1 12 0	Crop.																																																																																				
	V	All kharif crops not otherwise specified and gram and masur.	2 0 0	1 4 0	Do.																																																																																				

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per.	
			Flow.	Lift.		
Irrigation Branch Notification No. 037 R. I., dated 6th June 1918.		UPPER JHELUM CANAL.	Rs. A. P.	Rs. A. P.		
		OCCUPIER'S RATE.				
	I	Cane and water-nuts	9 0 0	4 8 0	Crop.	
	II	Rice	7 8 0	8 12 0	Do.	
	III	Orchards, gardens, tobacco, poppy, indigo, drugs, vegetables, melons and wheat	6 0 0	2 8 0	Orchards and gardens per half-year, rest per crop.	
	IV	Cotton, fibres, dyes (other than indigo), oilseeds and all rabi crops, except wheat, gram, masur, sonji, maize and turnips	4 0 0	2 0 0	Crop.	
	V	All kharif crops not otherwise specified	3 0 0	1 8 0	Do.	
	VI	(a) Gram, masur, sonji, turnips and maize	2 4 0	1 2 0	(a) Crop.	
		(b) Crops grown on the "wadā" of a previous crop			(b) Acre.	
		(c) Single waterings before ploughing for rabi followed by a rabi crop to be applicable only to the following channels:—			(c) Acre.	
		11 R. of Machiana kharif distributary.				
		12 R. or Samanpindi kharif distributary.				
		Maio Line, Upper Jhelum Canal.	13 R. or Sareki kharif distributary.			
		14 R. or Phalia kharif distributary.				
	Gujrat Branch, Upper Jhelum Canal.	2 R. or Phalis Dosharka kharif distributary.				
	These channels will be open only between the 1st April and 15th October, both dates inclusive.					
VII	Grass, village and district board plantations:—					
	For any number of waterings in the kharif season	1 4 0	0 10 0	Half-year.		
	For one watering in rabi season	1 4 0	0 10 0	Do.		
	For two or more waterings in rabi season	2 8 0	1 4 0	Do.		
VIII	(a) Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest.	0 8 0	0 4 0	Acre.		
	(b) Hemp (gan) and indigo which have been ploughed as green manure before the 15th September.					
Irrigation Branch Notification No. 07 R. I., dated 25th May 1902.		LOWER JHELUM CANAL.				
		OCCUPIER'S RATE.				
	I	Sugarcane, water-nuts	10 0 0	5 0 0	Crop.	
	II	Rice	6 4 0	3 2 0	Do.	
	III	Orchards, gardens, tobacco, indigo, vegetables, drugs, poppy and melons	6 0 0	2 8 0	Orchards and gardens per half-year; the rest per crop.	
	IV	Cotton, fibres, dyes (other than indigo), oilseeds, maize and all rabi crops except gram and masur	3 12 0	1 12 0	Crop.	
	V	All other kharif crops, gram and masur, and all crops grown for fodder	2 8 0	1 4 0	Do.	
	VI	Single watering before ploughing, not followed by a canal-irrigated crop in the same or next harvest.	1 4 0	0 10 0	Each watering.	
		Crops grown on the "wadā" or moisture of a previous crop.				Crop.
	VII	Single watering before ploughing for rabi followed by a rabi crop, to be applicable only to channels selected by the Local Government	2 8 0	1 4 0	Crop.	
	Irrigation Branch Notifications No. 0121 R. I., dated 31st September 1903, No. 310 R. I., dated 19th December 1905, and No. 695 R. I., dated 11th December 1907.	VIII	Grass, village plantations in Colony villages and District Board plantations in the Colony:—			
			For any number of waterings in the kharif season	1 4 0	0 10 0	Half-year.
			For one watering in the rabi season	1 4 0	0 10 0	Do.
		For two or more waterings in the rabi season	2 8 0	1 4 0	Do.	

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per
			Flow.	Lift.	
			Rs. A. P.	Rs. A. P.	
		LOWER JHELUM CANAL—CONCLUDED.			
		<i>OccUPIER'S RATE—concluded.</i>			
		<i>Applicable to—</i>			
		(1) <i>All villages or portions of villages in the Dhara Tahsil irrigated from the Khadir Feeder or Khadir Distributory.</i>			
		(2) <i>All villages in the Shakpur Tahsil, except Sher Muhammadwala and Wegawal and except all villages or portions of villages irrigated from the Sahiwal Feeder including the Sahiwal Distributory and Gondal Distributory.</i>			
		(3) <i>The following villages in the Sargodha Tahsil:—</i>			
		Northern Branch Chaks—			
		Nos. 89, 93, 94, 95, 103, 104, 105, 108, 110, 112, 115 to 174 inclusive.			
		Southern Branch Chaks—			
		Nos. 60, 61, 63, 131, 133, 134, 135, 187 to 141 inclusive and Chak Jodh on the Khadir Distributory.			
Irrigation Branch Notifications No. 409 R. I., dated 20th March 1912, and No. 433 R. I., dated 3rd April 1912.	I	Sugarcane and water-nuts	7 8 0	3 12 0	Crop.
	II	Rice	4 0 0	2 0 0	Do.
	III	Orchards, gardens, indigo, vegetables, drugs and melons	5 0 0	2 8 0	Orchards and gardens per half-year; the rest per crop.
	IV	Wheat	3 4 0	1 10 0	Crop.
	V	Cotton and oilseeds	3 0 0	1 8 0	Do.
Irrigation Branch Notification No. 002 R. I., dated 12th May 1918.	VI	Fibres (other than cotton), dyes (other than indigo), maize and all rabi crops other than wheat, gram and masur	2 8 0	1 4 0	Do.
	VII	All other kharif crops, gram, masur and all crops grown for fodder (including turnips)	2 0 0	1 0 0	Do.
	VIII	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest	1 4 0	0 10 0	Each watering.
		Crops grown on "excess" or moisture of a previous crop			Crop.
	IX	Single watering before ploughing for rabi followed by a rabi crop, to be applicable only to channels selected by the Local Government	2 8 0	1 4 0	Crop.
	X	Grass, village plantations in Colony villages and District Board plantations in the colony—			
		For any number of waterings in the kharif season	1 4 0	0 10 0	Half-year.
		For one watering in the rabi season	1 4 0	0 10 0	Do.
		For two or more waterings in the rabi season	2 8 0	1 4 0	Do.

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per
			Flow.	Lift.	
Irrigation Branch Notification No. 423 L., dated 7th March 1898.		LOWER SONAH AND PARA CANALS.	Rs. A. P.	Rs. A. P.	
		OCCUPIER'S RATE.			
	I	Rice, gardens and pepper	3 4 0	1 10 0	Acre.
	II	Cotton, sugarcane, melons, til and hemp	2 4 0	1 2 0	Do.
	III	All other kharif crops	1 4 0	0 10 0	Do.
	IV	All matured rabi crops, plantations and vegetables.	1 0 0	0 8 0	Do.
	V	Failed rabi crops and grasses	0 8 0	0 4 0	Do.
		UPPER SUTLEJ INUNDATION CANALS.			
		OCCUPIER'S RATE.			
		Montgomery District.			
Irrigation Branch Notification No. 422 L., dated 7th March 1898.	I	Rice, gardens and pepper	3 4 0	1 10 0	Acre.
	II	Cotton, sugarcane, melons, til and hemp	2 4 0	1 2 0	Do.
	III	All other kharif crops	1 4 0	0 10 0	Do.
	IV	All matured rabi crops, plantations and vegetables.	1 0 0	0 8 0	Do.
	V	Failed rabi crops and grasses	0 8 0	0 4 0	Do.
		OCCUPIER'S RATE.			
		Lahore District.			
Irrigation Branch Notification No. 1503 L., dated 18th April 1900.	I	Rice, gardens and pepper	3 4 0	1 10 0	Acre.
	II	Cotton, sugarcane, melons, til and hemp	2 4 0	1 2 0	Do.
	III	All other kharif crops	1 4 0	0 10 0	Do.
	IV	All matured rabi crops, plantations and vegetables.	1 0 0	0 8 0	Do.
	V	Failed rabi crops and grasses	0 8 0	0 4 0	Do.
		OCCUPIER'S RATE.			
Punjab Civil (Revenue) Department letter No. 209, dated 11th December 1899.		SIDHNAI CANALS.			
		WATER-RATE.			
		Kabirwala and Multan Tahsils.	Rs. A. P.		
	I	Rice, fruits and vegetables, pepper, cotton, til, sugarcane, wheat and tobacco	3 5 0		
	II	Other kharif crops	2 6 0		
	III	Other rabi crops	2 2 0		
		NOTE.—"Lift" rates to be half the "Flow" rates.			
		LOWER SUTLEJ INUNDATION CANALS.			
		OCCUPIER'S RATE.			
		Mailsi Canals and Branches; Muhammadwah-Sardarwah and Branches; Bahawalwah, Lodhran and Branches.			
Irrigation Branch Notification No. 53 R. L., dated 14th February 1903.	I	Rice, gardens and pepper	2 4 0	1 11 0	Acre of matured crop.
	II	Cotton, sugarcane and, till	1 12 0	1 5 0	Ditto.
	III	Other kharif crops	1 8 0	1 2 0	Ditto.
	IV	Rabi crops	0 14 0	0 10 0	Ditto.
		NOTE.—Irrigation on grass land may be assessed at half rabi rates at the discretion of the Deputy Commissioner.			

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		For.
			Flow.	Lift.	
		CHENAB INUNDATION CANALS,	Rs. A. P.	Rs. A. P.	
		OCCUPIER'S RATE.			
		<i>Gajwālotto, Sikandarabad-Sikandarwāl and Bilochanwāl Canals.</i>			
Irrigation Branch Notification No. 2188 I., dated 9th November 1889.	I	Rice, gardeas and pepper	2 4 0	1 11 0	Acres of matured crop.
	II	Cotton, sugarcane and til	1 12 0	1 5 0	Ditto.
	III	Other kharif crops	1 8 0	1 2 0	Ditto.
	IV	Rabi crops	0 14 0	0 10 0	Ditto.
		NOTE. —Irrigation on gross lands may be assessed at half rabi rates at the discretion of the Deputy Commissioner.			
		<i>Mullitalo, Daurano Langana and Wālī Mahomed Canal.</i>			
Irrigation Branch Notification No. 01522 I., dated 26th September 1890.	I	Rice, gardeas and pepper	2 4 0	1 11 0	Acres of matured crop.
	II	Cotton, sugarcane and til	1 12 0	1 5 0	Ditto.
	III	Other kharif crops	1 8 0	1 2 0	Ditto.
	IV	Rabi crops	0 14 0	0 10 0	Ditto.
		NOTE. —Irrigation on gross lands may be assessed at half rabi rates at the discretion of the Deputy Commissioner.			
		HAFIWAH CANAL.			
Irrigation Branch Notification No. 266 R I., dated 16th November 1905.	I	In exercise of the power conferred by Section 19 (1) of the Punjab Minor Canals Act, 1905 (Punjab Act III of 1905), His Honour the Lieutenant-Governor is pleased to direct that for all irrigation from the Hafiwah Canal the following rates shall be levied per acre actually matured, namely:—			
		WATER RATE.			
	I	Rice, gardeas and pepper	2 4 0	1 11 0	
	II	Cotton, sugarcane and til	1 12 0	1 5 0	
	III	Other kharif crops	1 8 0	1 2 0	
	IV	Rabi crops	0 14 0	0 10 0	
		Provided that on all irrigation, within the original grant of land made in the year 1880 to the late Ghulam Kadir Khan, of lands, the proprietary right in which is or may hereafter become vested—			
		(a) in the case of lineal descendants of the said Ghulam Kadir Khan; or			
		(b) in Mian Muhammad Khan or Hafez Muhammad Afzal Khan, the nephews of the said Ghulam Kadir Khan or their lineal descendants;			
		the rate per acre actually matured whether in the kharif or rabi shall be limited to the following rates, namely:—			
		Rs. A. P.			
		Flow 0 12 0 <i>per acre.</i>			
		Lift 0 9 0 ..			

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONCLUDED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per
			Flow.	Lift.	
		MUZAFFARGARH INUNDATION CANALS—CONCLUDED.	Rs. A. P.	Rs. A. P.	
		OCCUPIER'S RATE—concluded.			
		<i>Indus Canals.</i>			
Irrigation Branch Notification No. 562 R. I., dated 7th July 1903, and No. 100 R. I., dated 2nd February 1917.	I	Rice, gardens and pepper ...	2 0 0	1 0 0	Acres of matured crop.
	II	Cotton, sugarcane and indigo ...	1 0 0	0 8 0	Ditto.
	III	Other kharif crops ...	0 12 0	0 6 0	Ditto.
	IV	Rabi crops ...	0 8 0	0 4 0	Ditto.
Irrigation Branch Notification No. 434 R. I., dated 4th May 1907.	V	Grass lands ...	0 4 0	0 2 0	Ditto.
		<i>NOTE.—The rate for grass lands to be assessed at the discretion of the Deputy Commissioner</i>			
		GHAGGAR INUNDATION CANALS (BRITISH).			
		OCCUPIER'S RATE.			
Irrigation Branch Notification No. 318 R. I., dated 27th November 1903.	I	Sugarcane ...	8 6 0	4 4 0	Acres matured per crop.
	II	Rice and water-mills ...	0 0 0	3 0 0	Ditto.
	III	All other crops ...	2 8 0	1 4 0	Ditto.
		<i>Proviso.—Provided that no occupiers' rates shall be levied in respect of any land for the time being assessed to fluctuating land revenue.</i>			
		DELHI AND GURGAON WORKS.	<i>Rate per acre.</i>		
		OCCUPIER'S RATE.	Rs. A. P.		
Irrigation Branch Notification No. 553 R. I., dated 6th April 1898.	...	All crops ...	0 6 4½		Acres.
	...	Grass ...	0 3 3½		Do.
		<i>NOTE.—This schedule is the same as that published in Notification No. 623 R. I., dated 8th December 1873, which is hereby superseded.</i>			
		SCHEDULE OF RATES FOR SUPPLY OF WATER FOR PURPOSES OTHER THAN IRRIGATION.			
		WESTERN JUMNA CANAL, UPPER RABI DOAB CANAL, MILDIND CANAL, LOWER CHENAB CANAL, UPPER JHELUM CANAL, LOWER JHELUM CANAL, UPPER CHENAB CANAL, LOWER RABI DOAB CANAL, UPPER SUTLEJ CANAL, LOWER SUTLEJ AND PABH CANALS, SINDHAI AND FLEETMAN CANALS, LOWER SUTLEJ AND CHIND CANAL, INDUS CANAL, MUZAFFARGARH CANAL, SHANBER CANAL.			
Irrigation Branch Notifications Nos. 651 R. I., dated 8th April 1894, 276 R. I., dated 10th December 1902, 540 R. I., dated 22nd April 1913, 6103 R. I., dated 25th June 1918, and 6218 R. I., dated 12th September 1910.	...	Brick-making and pier-wall building ...	0 3 0		100 cubic feet.
	...	Laying concrete and brick or stone masonry ...	0 2 0		Ditto.
	...	Metalling roads ...	10 0 0		Mile.
	...	Water supplied in bulk ...	1 0 0		2,500 cubic feet.
Irrigation Branch Notification No. 325 R. I., dated 29th October 1906.	...	Watering roadside or avenue trees ...	2 8 0		Canal mile of 5,000 feet, for kharif crop.
	...		5 0 0		Canal mile of 5,000 feet for rabi crop.
Irrigation Branch Notification No. 10237 R. I., dated 23rd September 1911.	...	<i>Proviso.—Except within the limits of Civil Stations, Cantonnments and Municipalities no charge shall be made for water used for the manufacture of bricks and subsequently burnt in a kiln or for pier wall building, if taken from a water-course or tank lawfully supplied from a canal and if such bricks or walls are for buildings owned by cultivators having a share in the water-course.</i>			

PUNJAB PROVINCE.

IRRIGATION BRANCH

ADMINISTRATIVE ACCOUNTS

FOR THE YEAR

1916-17

No. Irr. 15-4-

Dated _____ 1917.

Copy forwarded to _____

J. C. MITRA,
Accountant-General, Punjab.

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ADMINISTRATIVE ACCOUNTS

No. 1.—General Abstract of Financial Results showing the Estimated Cost of Construction and the Interest on the Debt incurred in respect

Name of Project.	ESTIMATED COST OF CONSTRUCTION.			CAPITAL OUTLAY INCLUSIVE OF INDIRECT			
	Direct charges.	Indirect charges.	Total.	During 1916-17.			To end of
				Direct charges.	Indirect charges.	Total.	Direct charges.
PRODUCTIVE WORKS.							
Canals in Operation.							
Imperial.							
Western Jumna Canal	1,66,50,721	8,10,210	1,74,70,940	1,180	31	1,220	1,68,82,630
Upper Bari Doab Canal	2,08,71,907	7,31,773	2,16,06,680	—30,164	—1,935	—35,130	2,11,00,838
Sirhind Canal	2,12,02,710	12,12,185	2,51,14,022	36,649	—294	36,255	2,13,81,660
Lower Chenab Canal	3,18,68,000	7,49,105	3,26,08,065	6,10,021	12,217	5,59,238	3,16,78,920
Upper Sutlej Inundation Canals including Lower Sohag and Para.	16,05,078	1,01,011	17,07,019	1,351	14	1,405	17,18,805
Siddinal Canals	12,17,714	40,225	12,67,939	4,521	8	4,529	12,95,265
Lower Jhelum Canal	1,63,95,782	5,65,230	1,89,63,065	—33,191	600	—32,591	1,57,43,447
Indus Inundation Canals	28,37,225	77,064	29,14,290	8,616	429	9,015	29,01,976
TOTAL IMPERIAL	11,77,83,030	42,89,522	12,20,72,852	7,74,999	8,020	5,43,019	11,54,03,947
Contribution.							
Western Jumna Canal	11,70,475	..	11,60,478	..	..	..	11,60,478
Sirhind Canal	1,43,18,870	..	1,43,18,870	15,241	103	15,357	1,43,17,289
TOTAL CONTRIBUTION	1,54,79,345	..	1,54,79,345	15,241	103	15,357	1,54,77,767
TOTAL CANALS IN OPERATION, IMPERIAL ..	11,77,83,030	42,89,522	12,20,72,852	5,31,909	8,020	5,13,916	11,54,01,947
Do. CONTRIBUTION	1,54,79,345	..	1,54,79,345	15,241	103	15,357	1,54,77,767
Canals under construction.							
Upper Chenab Canal	3,61,00,583	12,25,411	3,65,32,021	7,37,131	1,03,457	8,10,590	3,47,91,637
Lower Bari Doab Canal	2,13,09,016	6,69,462	2,20,28,492	7,53,309	38,962	7,92,271	2,14,20,273
Upper Jhelum Canal	4,40,65,252	10,56,277	4,51,21,552	14,30,288	58,540	14,88,828	4,50,11,684
TOTAL CANALS UNDER CONSTRUCTION ..	10,07,41,805	29,10,190	10,36,51,987	29,20,731	2,00,059	31,21,690	9,87,03,404
GRAND TOTAL CANALS IN OPERATION AND UNDER CONSTRUCTION.	21,85,11,635	72,30,003	22,57,51,538	31,55,730	2,08,079	30,64,709	21,41,07,441
	1,54,79,345	..	1,54,79,345	15,284	103	15,357	1,54,77,767

(a).—The seeming excess over estimate is due to suspense balances.
(b).—Excludes recoveries made by Native States and credited.
(c).—Excludes share of Accounts Establishment commencing from

LAHORE :

The 31st August 1917.

DEPARTMENT.

PUNJAB PROVINCE.

FOR THE YEAR 1916-17.

Minor Works, the Capital outlay thereon, the Revenue derived therefrom, the working expenses, of 1916-17.

DURING 1916-17.						WORKING EXPENSES AND MAINTENANCE DURING 1916-17, INCLUSIVE OF INDIRECT CHARGES Nos. 3 AND 5,			NET RESULT, INCLUDING INTEREST, DIFFERENCE BETWEEN REVENUE AND WORKING EXPENSES.				Simple Interest during 1916-17.	NET RESULTS, INCLUDING INTEREST.			
Collected with Land Revenue.			Total.			Direct charges	Indirect charges.	Total	Excess revenue (surplus).	Excess expenditure (deficit).	Rate per cent			Excess revenue (surplus)	Excess expenditure (deficit).	Rate per cent.	
Actual transactions of the year.	Adjustment on account of previous year.	Total.	Actual transactions of the year.	Adjustment on account of previous year.	Total.						Of excess revenue	Of excess expenditure.				Of excess revenue.	Of excess expenditure.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		Rs.	Rs.	...	...
34,672	..	34,672	1,15,018	..	1,15,018	43,707	3,468	47,175	67,843	..	31.42	..					
..	21,360	..	21,850	27,818	2,002	30,480	..	8,630	..	2.20					
34,672	..	34,672	1,36,808	..	1,36,808	71,525	6,130	77,653	67,843	8,630	10.00	..					
									59,213								
..	3,105	..	3,105	..	3,105	..	1.00					
3,05,700	..	3,05,700	6,26,914	..	6,26,914	2,20,852	13,081	2,33,933	3,87,001								
2,46,795	..	2,46,795	4,44,042	..	4,44,042	1,48,443	6,566	1,55,009	2,88,033								
4,16,619	..	4,16,619	7,63,047	..	7,63,047	3,34,520	18,956	3,53,476	4,02,472								
6,69,114	..	6,69,114	18,24,903	..	18,24,903	7,10,816	36,582	7,47,397	10,77,508								
12,973	..	12,973	45,465	..	45,465	44,976	2,633	47,609	..	2,144							
3,222	..	3,222	3,222	..	3,222	2,109	295	2,404	818	..							
16,195	..	16,195	48,687	..	48,687	47,085	2,928	50,013	818	2,144							

J. C. MITRA,

Accountant-General, Punjab.

HEADS OF ACCOUNT.	DIRECT CHARGES.									Cost of construction as now estimated (Construction Estimate closed on 31st March 1893)	Expenditure against closed Estimates.
	IMPERIAL.			CONTRIBUTION.			TOTAL.				
	Previous.	1910-17.	Total.	Previous.	1910-17.	Total.	Previous.	1910-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
I.—WORKS.											
1. HEAD WORKS—											
B.—Land	4,710	..	4,710	..	..	..	4,710	..	4,710		
C.—Works	4,19,440	..	4,19,440	5,329	..	5,329	4,24,769	..	4,24,769		
K.—Buildings ..	42,311	..	42,311	..	..	..	42,311	..	42,311		
O.—Miscellaneous ..	13,539	..	13,539	..	..	..	13,539	..	13,539		
P.—Maintenance ..	21,839	..	21,839	..	..	..	21,839	..	21,839		
TOTAL	6,04,829	..	6,04,829	5,329	..	5,329	6,10,167	..	6,10,167		
MAIN CANAL AND BRANCHES											
A.—Preliminary Expenses	50,808	..	50,808	4,580	..	4,580	55,388	..	55,388		
B.—Land	2,58,542	..	2,58,542	22,259	..	22,259	2,80,801	..	2,80,801		
D.—Regulators ..	2,11,030	..	2,11,030	25,071	..	25,071	2,36,101	..	2,36,101		
E.—Falls and Weirs ..	3,61,190	..	3,61,190	42,008	..	42,008	4,03,198	..	4,03,198		
F.—River and Hill Torrent Works.	2,749	..	2,749	1,031	..	1,031	3,780	..	3,780		
F. (1)—Other Cross Drainage Works.	2,23,617	..	2,23,617	41,127	..	41,127	2,64,744	..	2,64,744		
G.—Bridges	8,23,308	..	8,23,308	51,270	..	51,270	8,74,578	..	8,74,578		
H.—Escapes	3,40,442	..	3,40,442	43,119	..	43,119	3,83,561	..	3,83,561		
I.—Navigation Works ..	13,87,990	..	13,87,990	20,862	..	20,862	14,08,852	..	14,08,852		
J.—Mills	55,117	..	55,117	3,832	..	3,832	58,950	..	58,950		
K.—Buildings	6,69,032	1,021	6,70,053	45,175	..	45,175	7,15,227	1,021	7,16,248		
L.—Earthwork	19,01,367	..	19,01,367	1,90,004	..	1,90,004	20,91,371	..	20,91,371		
M.—Plantations	19,032	..	19,032	4,050	..	4,050	23,082	..	23,082		
O.—Miscellaneous ..	51,239	..	51,239	3,768	..	3,768	55,007	..	55,007		
P.—Maintenance ..	1,58,861	..	1,58,861	18,144	..	18,144	1,77,005	..	1,77,005		
TOTAL	65,54,113	1,021	65,55,134	5,33,793	..	5,33,793	70,87,906	1,021	70,88,927		
3.—DISTRIBUTABLES—											
A.—Preliminary Expenses	65,053	..	65,053	12,972	..	12,972	78,025	..	78,025		
B.—Land	3,11,012	—114	3,10,898	6,946	..	6,946	3,17,844	—114	3,17,730		
C.—Works	11,87,716	..	11,87,716	1,30,924	..	1,30,924	13,18,640	..	13,18,640		
L.—Earthwork	14,05,257	..	14,05,257	1,65,612	..	1,65,612	15,70,869	..	15,70,869		
O.—Miscellaneous ..	3,88,830	..	3,88,830	20,350	..	20,350	4,09,180	..	4,09,180		
P.—Maintenance ..	54,924	..	54,924	12,583	..	12,583	67,507	..	67,507		
TOTAL	31,12,846	—114	31,12,731	3,68,403	..	3,68,403	37,71,245	—114	37,71,131		

ACCOUNTANT-GENERAL,
FOR THE YEAR 1916-17.
Project.
AND TO END OF 1916-17.

PUNJAB PROVINCE.

HEADS OF ACCOUNT.	DIRECT CHARGES.									Cost of Construction as now estimated (Consolidated Estimate closed on 31st March 1903).	Expenditure against closed Estimates.			
	IMPERIAL.			CONTRIBUTION.			TOTAL.							
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.					
4. DRAINAGE AND PROTECTIVE WORKS— A.—Preliminary Expenses .. B.—Land .. C.—Works .. L.—Earthwork .. O.—Miscellaneous .. Total .. TOTAL I.—WORKS .. Add expenditure on general work outside of 1916-17 .. Total ..	Rs. 20,301 59,525 2,00,420 4,27,174 22,617 7,23,034	Rs.	Rs. 20,301 59,525 2,00,420 4,27,174 22,617 7,23,034	Rs. 1 3,117 .. 3,118	Rs.	Rs. 1 3,117 .. 3,118	Rs. 20,302 59,525 2,00,420 4,30,291 22,617 7,26,157	Rs.	Rs. 20,302 59,525 2,00,420 4,30,291 22,617 7,26,157	Rs.	Rs. 20,302 59,525 2,00,420 4,30,291 22,617 7,26,157	Rs.	Rs. 20,302 59,525 2,00,420 4,30,291 22,617 7,26,157	
II.—ESTABLISHMENT A. DIRECTION (a) .. b. EXECUTIVE .. 8. SPECIAL QUARTY .. 9. SPECIAL FIELD ESTABLISHMENT .. 10. REPAIRS AND REVENUE ALLOWANCES .. Total .. Add expenditure on the works outside of 1916-17 .. Total ..	Rs. 6,60,351 24,61,101 1,51,572 31,73,024	Rs. 40 170 380	Rs. 6,60,391 24,61,271 1,51,572 31,73,234	Rs. 42,525 1,57,572 6,000 .. 2,500 1,66,784	Rs. 1,66,784	Rs. 6,65,076 25,58,843 1,57,572 32,81,491	Rs. 40 170 380	Rs. 6,65,076 25,58,843 1,57,572 32,81,491	Rs.	Rs. 6,65,076 25,58,843 1,57,572 32,81,491	Rs.	Rs. 6,65,076 25,58,843 1,57,572 32,81,491	Rs.	
III.—TOOLS AND PLANT 1. Repairs to Tools .. 2. Repairs to Plant .. 3. Tools .. 4. Repairs to Plant .. 5. General Expenses .. 6. Plant .. 7. Office Expenses .. 8. Repairs to Plant .. 12. Miscellaneous .. Total ..	Rs. 1,500 2,500 1,50,000 2,10,526	Rs.	Rs. 1,500 2,500 1,50,000 2,10,526	Rs.	Rs.	Rs.	Rs. 2,231 25,014 2,10,526	Rs.	Rs. 2,231 25,014 2,10,526	Rs.	Rs. 2,231 25,014 2,10,526	Rs.	Rs. 2,231 25,014 2,10,526	Rs.
IV.—REVENUE ACCOUNT. 14. STOCK .. 15. PRICES PURCHASED .. 15a. PRICES PAID .. 16. MISCELLANEOUS AND VARIOUS .. Total .. GRAND TOTAL .. V.—LESS RECEIPTS ON CAPITAL ACCOUNT. Net Total .. APPORTIONMENT. 19.—IRRIGATION WORKS ..	Rs. 2,13,700 —100 2,13,700 1,28,03,421 11,953 1,28,03,421 1,00,00,000	Rs. .. —200 1,007 1,000	Rs. 2,13,700 —290 2,13,700 1,28,04,428 11,953 1,28,04,428 1,00,00,000	Rs. 1,68,391 1,68,391	Rs.	Rs.	Rs. 2,13,700 —100 2,13,700 1,29,01,819 11,953 1,29,02,826 1,00,00,000	Rs. .. —200 1,007 1,000	Rs. 2,13,700 —290 2,13,700 1,29,02,826 11,953 1,29,04,779 1,00,00,000	Rs.	Rs. 2,13,700 —290 2,13,700 1,29,04,779 11,953 1,29,16,732 1,00,00,000	Rs.	Rs. 2,13,700 —290 2,13,700 1,29,18,732 11,953 1,29,30,685 1,00,00,000	

Share of accounts excluded under Imperial from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Western Jumna Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Occupiers' rates ..	..	27,79,417		..	..		..
Owners' rate on irrigated land.	..	..		..	..		..
Sales of water ..	..	10,864		..	168		..		
Supply of towns..	..	..		..	..		..
Receipts from Plantations.	..	22,859		..	332		..		
Receipts from other Canal produce.	..	720		..	1		..		
Water-power ..	..	3,320		..	273		..		
Navigation Receipts.	..	73,580		..	..		..
Rent of Buildings ..	..	7,260		..	366		..		
Fines ..	..	2,310		..	130		..		
Miscellaneous and other Receipts.	..	35,200		..	50		..		
Total ..	0,70,11,681	29,44,574	0,99,56,165	33,004	1,336	34,340	0,70,14,585	23,45,910	9,99,90,495
Share of Land Revenue collected in the Civil Department.	1,87,99,500	2,08,015	1,00,07,515	..	..		1,87,00,500	2,08,015	1,90,07,515
Interest on sale proceeds of waste lands benefited.	1,305	295	1,600	..	..		1,305	295	1,600
Total ..	1,88,00,895	2,08,310	1,90,09,205	..	..		1,88,00,895	2,08,310	1,90,09,205
TOTAL RECEIPTS	11,58,12,476	31,52,884	11,89,65,360	33,004	1,336	34,340	11,68,45,486	31,51,220	11,89,99,700

OFFICE OF ACCOUNTANT GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Western Jumna Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

CHARGES.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Provincial.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(I.A.)—EXTENSION AND IMPROVEMENTS.									
(1).—HEAD WORKS	1,90,092	7,000	2,00,100	14,300	607	14,916	2,13,401	7,705	2,21,106
(2).—MAIN CANAL AND BRANCHES.	13,41,599	17,426	13,60,015	2,34,326	17,523	2,51,849	15,75,925	44,040	16,20,874
(3).—DISTRIBUTARIES	6,65,504	23,421	7,38,925	56,513	..	56,513	7,22,017	73,424	7,95,441
(4).—DRAINAGE AND PROTECTIVE WORKS	68,860	3,231	72,091	2,223	205	2,431	71,083	3,442	74,525
TOTAL I. A. ..	22,75,055	1,11,182	23,96,237	3,67,371	15,335	3,25,709	28,82,426	1,20,520	27,11,946
(I.B.)—MAINTENANCE AND REPAIRS									
(1).—HEAD WORKS	18,51,765	20,015	18,70,763	53,254	2,482	55,736	19,35,022	31,407	19,66,519
(2).—MAIN CANAL AND BRANCHES.	74,65,951	3,25,260	77,94,270	4,41,155	21,675	4,62,830	70,10,136	3,48,351	82,58,500
(3).—DISTRIBUTARIES	41,43,516	1,51,152	43,24,955	1,71,219	..	1,71,219	43,15,035	1,51,152	44,66,187
(4).—DRAINAGE WORKS	5,28,234	49,512	5,78,616	19,813	1,692	20,505	5,47,747	51,504	5,99,251
TOTAL I. B. ..	1,39,93,399	5,55,265	1,45,78,657	7,14,641	25,249	7,39,790	1,47,07,940	6,10,517	1,53,18,457
(I.C.)—COMPENSATION.	1,02,953	6,827	1,09,782	2,601	485	2,457	1,04,059	7,313	1,12,272
(II.)—ESTABLISHMENT.									
(5).—DIRECTOR AND ACCOUNT (c)	21,10,359	55,310	21,66,879	57,372	5,109	62,571	21,07,741	61,500	22,59,250
(6).—EXECUTIVE ESTABLISHMENT	51,21,572	2,07,703	54,19,575	3,45,580	10,313	3,59,192	54,70,752	3,08,018	57,78,768
(7).—MEDICAL DO.		(b)							
(7A).—REVENUE DO	51,71,574	2,05,674	53,77,248	1,38,590	70	1,38,660	53,10,170	2,05,744	55,15,914
(7B).—NAVIGATION ESTABLISHMENT.	17,435	252	17,687	..	..	..	17,435	252	17,687
(7C).—PLANTATION ESTABLISHMENT.	700	..	700	..	..	..	700	..	700
(7D).—LEAVE AND PENSION ALLOWANCE.	..	..	..	80,450	2,181	82,631	80,450	2,181	82,631
(7E).—MILLS AND MACHINERY.	1,123	..	1,123	..	..	..	1,123	..	1,123
TOTAL ..	1,64,23,163	5,59,239	1,69,83,102	6,55,205	17,763	6,73,061	1,70,78,461	5,77,702	1,76,56,163

(a). Includes Rs. 16,203 on account of seigniorage during the year. Up to date Rs. 1,85,087.

(b). " Rs. 75,781 on account of fees for collection of Revenue.

(c). " Share of accounts excluded under Imperial from 1912-13.

(d). Rs. 6,19,270 more would have been earned had not owners' rates on certain lands irrigated been remitted in favour of Revenue Waivees.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Western Jumna Canal Project.

No. 2.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.—concluded.

CHARGES.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(III).—TOOLS AND PLANT.									
(1).—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIAL.	1,067	5	1,840	...	...	...	1,067	582	1,549
(2).—PLANTS AND MACHINERY.	3,723	412	4,135	...	...	...	3,723	412	4,135
(3).—TOOLS ...	1,705	183	1,888	...	...	...	1,705	183	1,888
(4).—NAVIGATION PLANTS.	5,568	681	6,249	...	...	...	5,568	681	6,249
(5).—CAMP EQUIP- AGE	45	16	61	...	...	...	45	16	61
(6).—LIVE STOCK	..	...	...	...	...	...	...	..	...
(7).—OFFICE FURNITURE.	1,765	332	2,097	...	...	...	1,765	332	2,097
(12).—MISCELLANEOUS.	2,83,713	—165	2,83,548	22,640	574	23,214	3,06,353	409	3,06,762
(8).—REPAIRS AND CARRIAGES ...	2,28,111	12,148	2,40,259	522	...	522	2,28,633	12,148	2,40,781
TOTAL ...	5,25,097	14,180	5,39,277	23,162	574	23,736	5,48,859	14,763	5,63,622
(IV).—REFUNDS OF REVENUE.	3,70,244	1,134	3,71,378	...	..	..	3,70,244	1,134	3,71,378
(V).—PROFIT AND LOSS.	1,295	...	1,295	...	...	...	1,295	...	1,295
General work to end of 1864-65.	48,92,523	...	48,92,523	...	...	...	48,92,523	...	48,92,523
TOTAL ..	3,85,84,334	12,78,530	3,98,62,863	17,02,373	62,410	17,64,783	4,02,86,707	13,40,949	4,16,27,656
Indirect Charges debitable to Revenue Account as per Account No. 5.	27,01,150	78,616	27,79,766	...	..	...	27,01,150	78,616	27,79,766
TOTAL CHARGES	4,12,85,484	13,57,146	4,26,42,630	17,02,373	62,410	17,64,783	4,29,87,867	14,19,565	4,44,07,432
Balance, Not Revenue.	7,45,26,002	17,95,729	7,63,21,731	—16,69,359	—61,074	—17,30,433	7,28,57,623	17,34,653	7,45,92,276
GRAND TOTAL	11,58,11,476	31,52,874	11,89,64,350	33,004	1,336	34,340	11,58,45,480	31,54,220	11,89,99,700

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Western Jumna Canal Project.

No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount		Amount.
	Rs.		Rs.
Total Interest charged to end of 1915-16 ...	...	Net Revenue realized to end of 1915-16 ...	...
Do. for the year 1916-17 ...	2,39,02,500	Do. during 1916-17 ...	7,45,25,892
Total outlay to end of 31st March 1917 = Rs. 1,88,83,536	...		17,95,723
Less half outlay during 1916-17 = Rs. 595	...		
Rs. 1,68,82,941	...		
Interest at 8-2064 per cent ...	5,55,520		
Total ...	2,34,59,020		
Balance Revenue after defraying interest charges ...	5,28,63,692		
Total ...	7,63,22,721	Total ...	7,63,22,721

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars	Previous.	1916-17	Total.
	[Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ...	2,16,561	...	2,16,561
Leave and Pension Allowances { Imperial ...	5,03,627	31	5,03,658
{ Contribution ...	20,049	...	20,049
Total ...	8,39,237	31	8,39,268
Leave and Pension Allowances debited to Native States treated as direct charge and transferred to account No. 2 of the Canal.	20,049	...	20,049
Net debitable to Imperial ...	8,10,188	31	8,10,219
REVENUE—			
Capitalization of abatement of Land Revenue ...	16,367	226	16,592
Leave and Pension Allowances { Imperial ...	20,84,788	78,391	27,63,174
{ Contribution ...	80,450	2,181	82,631
Total ...	27,81,600	80,797	28,62,397
DEBIT—			
Leave and Pension Allowances debited to Native States treated as direct charge and transferred to account No. 3 of this Canal.	80,450	2,181	82,631
Net debitable to Imperial Revenue ...	27,01,150	78,616	27,79,766

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Western Jumna Canal Project.

No 6—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS	CHARGES AGAINST CLOSED SANCTIONS			CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate.	Expenditure against Open Canal Sanctions.	Total	Charges to date	Amount of sanctioned Estimate.	Unspent Balance of Estimate.		
IMPERIAL.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES.								
Works	1,02,90,277	28,44,613	1,31,34,890			..	1,31,34,890	
Establishment ..	27,27,223	6,01,030	33,28,252	..	..	..	33,28,252	
Tools and Plant ..	1,77,785	40,265	2,18,050	..	..	..	2,18,050	
Suspense Balance ..	..	..	..	2,13,815	..	—2,13,815	2,13,815	
Total ..	1,31,95,285	34,85,917	1,66,81,202	2,13,815	..	—2,13,815	1,68,95,017	
Less Receipts on Capital Account.	11,201	280	11,481	..	..	..	11,481	
Net Total ...	1,31,84,084	34,85,637	1,66,69,721	2,13,815	..	—2,13,815	1,68,83,536	
INDIRECT CHARGES.								
Capitalized abatement of Land Revenue.	1,53,167	63,394	2,16,561	..	..	..	2,16,561	
Leave and Pension Allowances.	5,12,094	81,664	5,93,658	..	..	..	5,93,658	
Total ..	6,65,261	1,44,958	8,10,219	..	..	..	8,10,219	
GRAND TOTAL ..	1,38,49,345	36,30,595	1,74,79,940	2,13,815	..	—2,13,815	1,76,93,755	
CONTRIBUTION.								
DIRECT CHARGES.								
Works	8,34,341	66,299	9,00,640	..	..	..	9,00,640	
Establishment ..	2,17,498	19,014	2,36,512	..	..	..	2,36,512	
Tools and Plant ..	22,814	654	23,468	..	..	..	23,468	
Total ...	10,74,653	86,297	11,60,950	..	..	..	11,60,950	
Less Receipts on Capital Accounts.	472	..	472	..	..	..	472	
Net Total ..	10,74,181	86,297	11,60,478	..	..	..	11,60,478	
GRAND TOTAL ..	10,74,181	86,297	11,60,478	..	..	..	11,60,478	

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Bari Doab Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated (Construction Estimate closed on 31st March 1890.)	Expenditure against Closed Estimate.
	Imperial.				
	Previous.	1916-17.	Total.		
1.—WORKS.	Rs.	Rs.	Rs.		
1. HEAD WORKS—					
B.—Land .. ..	..	—80	—80		
C.—Works	8,17,185	3,808	8,20,993		
K.—Buildings	63,031	2,927	65,958		
TOTAL	8,80,219	0,149	8,80,368		
2. MAIN CANAL AND BRANCHES—					
A.—Preliminary Expenses	8,180	..	8,180		
B.—Land	1,44,578	—908	1,43,670		
D.—Regulators	3,52,039	..	3,52,039		
E.—Falls and Weirs	19,49,484	..	19,49,484		
F.—River and Hill Torrent Works	5,39,998	..	5,39,998		
F. (1).—Other Cross Drainage Works	1,18,245	..	1,18,245		
G.—Bridges	8,52,439	..	8,52,439		
H.—Escapes	6,38,733	..	6,38,733		
I.—Navigation Works	4,78,588	..	4,78,588		
J.—Mills	1,47,530	..	1,47,530		
K.—Buildings	10,72,388	10,826	10,83,214		
L.—Earthwork	88,73,189	26,854	89,00,043		
M.—Plantations	95,475	..	95,475		
O.—Miscellaneous	5,56,068	1,27,398	6,83,466		
P.—Maintenance	75,872	..	75,872		
TOTAL	1,02,33,403	1,64,110	1,03,97,513		
3. DISTRIBUTARIES—					
A.—Preliminary Expenses	24,333	..	24,333		
B.—Land	3,71,861	—1,898	3,69,963		
C.—Works	16,28,141	..	16,28,141		
L.—Earth work	15,98,384	..	15,98,384		
O.—Miscellaneous	3,27,080	—7,231	3,19,849		
P.—Maintenance	8,354	..	8,354		
Add Dinanagar Navigation Channel	35,776	..	35,776		
Shahpur Water Courses	63,427	..	63,427		
Lahore City Rajbaba	12,724	..	12,724		
TOTAL	41,08,830	9,120	41,17,950		

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Bari Doab Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES			Cost of construction as now estimated (Construction Estimate closed on 31st March 1890)	Expenditure against Closed Estimates.
	Imperial.				
	Previous—	1916-17	Total		
	Rs	Rs	Rs	Rs	Rs.
4.—DRAINAGE AND PROTECTIVE WORKS—					
A.—Preliminary Expenses	539	...	539		
B.—Land	6,519	...	6,519		
C.—Works	28,906	...	28,906		
L.—Earthwork	95,247	...	95,247		
O.—Miscellaneous	1,163	...	1,163		
TOTAL	1,33,374	...	1,33,374		
TOTAL 1 WORKS.	1,61,157	4,51,133	1,62,77,009	1,65,04,914	1,67,30,482
II.—ESTABLISHMENT					
5. Direction	8,48,319	3	8,48,322		
6 Executive	26,44,750	—35,780	26,08,961		
7. Medical	5,465	...	5,465		
TOTAL	34,98,534	—35,786	34,62,748	34,73,497	34,25,290
III.—TOOLS AND PLANT					
Plant and Machinery	255	2,573	3,831		
4. Navigation Plant	22	...	22		
8 Repairs and Carriage	2,360	...	2,360		
Miscellaneous	9,13,237	—3,161	9,10,086		
TOTAL	9,16,877	422	9,16,299	9,13,401	8,95,258
IV.—SUSPENSE ACCOUNT					
14 Stock	5,42,941	—80,637	4,62,304		
15 ^c Stock Purchases	—1,448	—3,770	—5,219		
15 ^a Stock Sale	113	483	596		
16 Miscellaneous Advances	0,152	—2,595	3,556		
18 London Stores	99,403	—69,403	...		
TOTAL	6,17,160	—1,55,024	4,01,237		
GRAND TOTAL	2,11,47,447	—30,164	2,11,17,203	2,08,91,882	2,06,51,030
V.—Less RECEIPTS ON CAPITAL ACCOUNT.					
NET TOTAL	2,11,30,492	—30,164	2,11,00,338	2,08,74,907	2,00,34,075
APPORTIONMENT.					
49—Irrigation Works	2,11,30,492				

(a). Share of accounts excluded from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Bari Doab Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	(I.A.)—EXTENSIONS AND IMPROVEMENTS.	Rs.	Rs.	Rs.
Occupiers' rates ..	9,60,57,498	42,07,119	10,02,60,617	(1.)—HEAD WORKS ..	3,45,305	41,728	3,87,123
Owners' rates on irrigated land ..	8,575	..	8,575	(2.)—MAIN CANAL AND BRANCHES ..	14,52,811	24,782	14,77,593
Sales of water ..	7,31,818	34,684	7,66,502	(3.)—DISTRIBUTARIES ..	12,57,999	33,077	12,91,076
Supply of towns ...	2,593	984	3,577	(4.)—DRAINAGE AND PROTECTIVE WORKS.	1,80,837	7,274	1,88,111
Receipts from Plantations	10,46,595	28,833	10,75,428	TOTAL I. A. ..	32,33,042	1,06,841	33,39,883
Receipts from other Canal produce.	2,40,714	1,736	2,42,450	(I. B.)—MAINTENANCE AND REPAIRS.			
Water-power ..	42,97,730	1,19,487	44,17,217	(1.)—HEAD WORKS ..	47,26,213	32,937	47,59,150
Navigation Receipts ..	5,477	..	5,477	(2.)—MAIN CANAL AND BRANCHES ..	87,85,331	2,52,350	90,37,681
Rent of Buildings ..		7,802		(3.)—DISTRIBUTARIES ..	44,04,540	1,68,452	45,73,000
Fines	14,52,639	2,182	14,54,821	(4.)—DRAINAGE WORKS ..	1,12,321	14,801	1,27,122
Miscellaneous and other Receipts.		1,40,520		TOTAL I. B. ..	1,80,28,414	4,63,500	1,84,91,914
Total ..	10,38,30,516	45,43,416	10,83,73,932	I. C.—COMPENSATION.	40,322	..	40,322
Share of Land Revenue collected in the Civil Department.	1,49,00,930	6,00,120	1,55,01,050	(II.)—ESTABLISHMENT.			
Interest on sale proceeds of waste lands benefited.	7,50,542	68,740	8,19,282	(1.)—DIRECTION AND ACCOUNTS ..	22,65,120	64,093	23,29,213
TOTAL ..	1,50,51,378	6,68,875	1,57,20,253	(2.)—EXECUTIVE ESTABLISHMENT ..	82,42,516	3,84,509	86,27,025
				(7.)—MEDICAL Do. ..	1,17,940	6,403	1,24,343
				(7A.)—REVENUE Do. ..	68,17,687	2,99,008	71,16,695
				(7C.)—PLANTATION Do. ..	40,155	..	40,155
				(7D.)—LEAVE AND PENSION ALLOWANCE ..	62	..	62
				TOTAL ..	1,74,83,495	7,20,073	1,82,03,568
				III. TOOLS AND PLANT.			
				(1.)—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS ..	107	820	927
				(2.)—PLANT MACHINERY ..	8,142	51	8,193
				(3.)—TOOLS ..	1,763	827	2,590
				(4.)—NAVIGATION PLANT ..	30	713	743
				(5.)—CAMP EQUIPAGES ..	121	..	121
				(6.)—LIVE STOCK ..	157	47	204
				(7.)—OFFICE FURNITURE ..	2,295	58	2,353
				(8.)—REPAIRS AND CARRIAGE ..	2,83,300	20,684	3,03,984
				(9.)—MISCELLANEOUS ..	3,03,187	3,12	3,06,304
				TOTAL III TOOLS AND PLANTS.	6,50,090	2,277	6,52,367
				(IV.)—REFUNDS OF REVENUE	1,08,187	3,427	1,11,614
				(V.)—PROFIT AND LOSS.	1,073	..	1,073
				TOTAL ..	3,96,22,908	13,21,218	4,09,44,126
				Indirect Charges debitable to Revenue Account as per Account No. 5.	27,56,190	1,01,335	28,57,525
				TOTAL CHARGES ..	4,23,79,098	14,22,553	4,38,01,651
				Balance, Net Revenue ..	7,71,11,930	37,80,738	8,08,92,668
				GRAND TOTAL ..	11,04,01,023	52,12,201	11,56,13,224

(a). Share of Accounts excluded from 1912-13.

(b). Includes Rs. 1,19,016 on account of fees for collection of revenue.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Bari Doab Canal Project.

No. 4—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
	Rs.		Rs.
Total interest charges to end of 1915-16 ..		Net Revenue realized to end of 1916-16 ..	7,71,11,939
Do. for the year 1916-17 ..	3,45,75,931	Do. during 1916-17 ..	37,59,738
Total outlay to end of March 1917=Rs. 2,11,00,338			
Less half outlay during 1916-17= " —15,077			
Mean Capital at charge " 2,11,15,415			
Interest at 3.2964 per cent. on above ..	6,99,049		
Total ..	3,52,71,980		
Balance Revenue after defraying Interest charges	4,56,20,683		
Total ..	8,09,01,663	Total ..	8,09,01,663

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ..	20,639	25	20,664
Leave and Pension Allowances ..	7,21,369	—5,010	7,16,359
Total ..	7,42,008	—4,985	7,37,023
REVENUE—			
Capitalization of abatement of Land Revenue ..	19,574	525	20,099
Leave and Pension Allowances ..	27,86,616	1,00,810	28,87,426
Total ..	27,66,190	1,01,335	28,67,525

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGE SANCTIONS.			CURRENT SANCTIONS.			Total charges to date against old current sanctions.	REMARKS.		
	Expenditure against Construction Estimate.	Expenditure against open canal sanctions.	Total.	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.		Authority.	No. and date.	Amount.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.			Rs.
DIRECT CHARGES—										
Works ..	1,24,50,791	32,70,601	1,57,30,482	5,46,527	7,74,432	2,27,905	1,62,77,009	G. I.	935 I	1,22,989
Establishment ..	27,91,452	6,33,838	34,25,290	37,458	48,107	10,739	34,62,748	G. I.	16-6-14 479 I	1,33,894
Tools and Plant ..	4,98,216	3,97,043	8,95,259	21,041	18,203	—2,838	9,16,299	Secy.	29-4-15 1138 W. I.	8,506
Suspense Balances ..	..	..	..	4,61,237	..	—4,61,237	4,61,237	I. B.	9-3-15	
Total ..	1,57,40,458	43,10,572	2,00,51,030	10,66,263	8,40,532	—2,25,431	2,11,17,293	Secy.	731 W. I.	3,696
								I. B.	4-2-13	
Less Receipts on Capital Account	16,955	..	16,955	..	..	..	16,955	G. I.	1745 I	5,05,683
								S. E.	20-11-13 308	
								S. E.	20-1-16	837
Net Total ..	1,57,23,503	43,10,572	2,00,34,075	10,66,263	8,40,532	—2,25,431	2,11,00,338	S. E.	7370	2,058
								S. E.	22-11-15	
INDIRECT CHARGES—								S. E.	1835	230
Capitalized abatement of Land Revenue.	8,381	12,280	20,661	..	..	..	20,661	S. E.	22-3-15	
Leave and Pension Allowances.	6,22,375	88,737	7,11,112	5,247	..	—5,247	7,16,359	Secy.	2706	41,752
Total ..	6,30,756	1,01,017	7,31,773	5,247	..	—5,247	7,37,020	I. B.	29-10-08	
								Do.	120	11,145
								Do.	0-1-17 76	4,542
GRAND TOTAL	1,63,54,259	44,11,589	2,07,65,848	10,71,510	8,40,832	—2,30,678	2,18,27,358	Do.	18-12-16	
								Do.	75	4,700
								Do.	18-12-16	8,40,832

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sirhind Canal Project.

No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.									Cost of construction as now estimated (Construction Estimate closed on 31st March).	Expenditure against closed Estimates.
	IMPERIAL.			CONTRIBUTION.			TOTAL.				
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
1.—WORKS.											
1. HEAD WORKS—											
A.—Preliminary Expenses.	483	...	483	272	..	272	755	...	755		
B.—Land	7,063	..	7,063	3,074	...	3,074	11,037	...	11,037		
C.—Works	9,17,711	23,217	9,40,928	5,16,213	13,060	5,29,273	14,33,921	36,277	14,70,201		
K.—Buildings	69,065	2,976	72,041	38,819	1,674	40,493	1,07,914	4,050	1,12,504		
O.—Miscellaneous ..	73,804	..	73,804	3,535	..	3,535	77,342	..	77,342		
P.—Maintenance ..	24,101	..	24,101	13,539	..	13,539	37,603	...	37,603		
TOTAL ..	10,92,230	20,193	11,12,423	5,76,105	14,734	5,91,139	16,68,635	40,927	17,09,562		
2.—MAIN CANAL AND BRANCHES—											
A.—Preliminary Expenses.	23,536	..	23,536	19,395	...	19,395	42,934	...	42,934		
B.—Land	5,59,850	..	5,59,850	2,51,332	..	2,51,332	8,14,212	...	8,14,212		
D.—Regulators	4,18,720	..	4,18,720	2,95,027	...	2,95,027	7,13,747	..	7,13,747		
E.—Falls and Weirs ..	7,74,938	..	7,74,938	3,07,909	..	3,07,909	11,72,847	...	11,72,847		
F.—(1).—Other Cross Drainage Works.	12,32,657	..	12,32,657	10,41,540	..	10,41,540	22,71,136	...	22,71,136		
G.—Bridges	3,05,833	2,572	3,08,405	4,89,940	—277	4,89,663	12,95,782	2,295	12,98,077		
H.—Escapes	1,80,086	..	1,80,086	1,03,313	..	1,03,313	2,89,099	..	2,89,099		
I.—Navigation Works	17,47,254	..	17,47,254	3,54,210	..	3,54,210	21,31,800	..	21,31,800		
J.—Mills	41,513	..	41,513	...	..	...	11,513	..	11,513		
K.—Buildings	9,41,936	...	9,41,936	3,10,346	..	3,10,346	12,55,301	...	12,55,301		
L.—Earthwork	18,83,514	—7,731	18,75,783	31,61,614	..	31,61,614	80,45,438	—7,731	80,37,707		
M.—Plantations	1,20,812	..	1,20,812	1,01,258	..	1,01,258	2,25,170	..	2,25,170		
N.—Tanks and Reservoirs	1,910	..	1,910	..	..	..	1,040	...	1,940		
O.—Miscellaneous ..	87,807	..	87,807	77,397	..	77,397	1,65,281	..	1,65,281		
P.—Maintenance ..	2,27,821	..	2,27,821	2,00,075	...	2,00,075	4,30,896	...	4,30,896		
TOTAL ..	120,58,107	—6,159	1,20,51,948	8,45,002	—277	8,44,725	1,89,00,709	—5,430	1,88,95,279		
2.—DISTRIBUTARIES—											
A.—Preliminary Expenses.	51,008	..	51,008	30,471	...	30,471	91,379	..	91,379		
B.—Land	3,80,536	..	3,80,536	72,601	...	72,601	4,59,137	..	4,59,137		
C.—Works	14,08,001	...	14,08,001	7,95,007	..	7,95,007	22,03,008	..	22,03,008		
L.—Earthwork	10,67,949	...	10,67,949	9,77,792	...	9,77,792	20,35,738	...	20,35,738		
O.—Miscellaneous ..	2,55,485	...	2,55,485	17,803	...	17,803	2,73,288	...	2,73,288		
P.—Maintenance ..	..	...	..	..	..	..	..	...	..
TOTAL ..	37,59,870	21,034	37,80,904	10,02,674	14,477	10,02,674	50,02,650	...	50,02,650		

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.
Sirhind Canal Project.

HEADS OF ACCOUNT.	DIRECT CHARGES.									Cost of construction as now estimated. (Construction Estimate closed on 31st March.)	Expenditure against closed estimates.
	IMPERIAL.			CONTRIBUTION.			TOTAL.				
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
DRAINAGE AND PROTECTIVE WORKS.											
A.—Preliminary Expenses.	31	..	31	17	..	17	48	..	48		
B.—Land ..	55,082	..	55,082	44,530	..	44,530	1,00,518	..	1,00,518		
C.—Works ..	3,303	..	3,303	1,858	..	1,858	5,161	..	5,161		
L.—Earthwork ..	5,31,372	..	5,31,372	1,24,092	..	4,24,092	9,65,464	..	9,65,464		
O.—Miscellaneous ..	..	..	..	..	..	..	..	..	..
P.—Maintenance ..	2,622	..	2,622	1,475	..	1,475	4,097	..	4,097		
TOTAL ..	5,93,310	..	5,93,310	4,71,078	..	4,71,078	10,06,288	..	10,06,288		
TOTAL I—WORKS ..	1,75,03,613	21,034	1,75,24,647	97,00,650	14,467	98,14,116	1,73,03,272	35,401	2,73,38,617	2,73,54,170	2,73,24,203
II.—ESTABLISHMENT.											
5. DIRECTION ..	..	—982	—982	..	807	807	..	—118	—116		
6. EXECUTIVE ..	..	..	..	(a)	..	..	..	..	..
7. MEDICAL ..	..	..	..	..	..	..	..	..	..
8. SPECIAL SURVEY ..	40,55,080	—1,120	40,53,960	28,20,514	—131	28,20,383	74,84,603	—1,261	74,83,342		
8½. SPECIAL FIXED SURVEY.	..	..	..	..	..	..	..	..	..
LEAVE AND PENSION ALLOWANCES	..	..	..	5,39,050	103	5,40,053	5,39,050	103	5,40,053		
TOTAL ..	40,55,080	—2,102	40,52,978	33,60,464	834	33,70,303	80,24,553	—1,263	80,23,290	80,33,405	80,28,076
III.—TOOLS AND PLANT.											
9. NAVIGATION PLANT	..	..	..	..	..	..	..	..	..
10. MILL PLANT ..	..	..	..	..	..	..	..	..	..
11. RAILWAY PLANT AND ROLLING STOCK.	21,07,210	—99	21,06,111	11,90,922	—12	11,90,910	32,06,138	—111	32,06,027		
12.—MISCELLANEOUS.	..	..	..	..	..	..	..	..	..
13.—REPAIRS AND CARriage.	..	..	..	..	..	..	..	..	..
Loss BY EXCHANGE ..	2,740	..	2,740	10,568	..	10,568	13,308	..	13,308		
TOTAL ..	21,07,956	—99	21,07,857	12,01,400	—12	12,01,478	33,09,446	—111	33,09,335	33,10,107	33,09,732
IV.—SUSPENSE ACCOUNT.											
STOCK ..	1,84,824	18,615	2,03,439	..	..	..	1,84,824	18,615	2,03,439		
14. STOCK PURCHASES ..	—186	—164	—350	..	..	..	—186	—164	—350		
16a. STOCK SALES ..	55	—50	5	..	..	..	55	—50	5		
16. MISCELLANEOUS ADVANCES.	1,278	—685	593	..	..	..	1,278	—685	593		
17. LONDON INVOICES ..	..	..	..	..	..	..	..	..	..
18. LONDON STORES....	..	..	..	..	..	..	..	..	..
TOTAL ..	1,85,071	17,710	2,03,687	..	..	..	1,85,071	17,710	2,03,687		
GRAND TOTAL ..	2,44,52,629	36,540	2,44,89,178	1,43,70,513	16,284	1,43,85,807	1,98,23,242	51,839	3,80,76,070	3,80,97,741	3,80,62,011
V.—LESS RECEIPTS ON CAPITAL ACCOUNT.	1,07,518	..	1,07,518	68,098	..	68,098	1,76,126	..	1,70,120		
NET TOTAL ..	2,43,45,111	36,540	2,43,81,660	1,43,02,000	16,284	1,43,17,284	3,80,47,110	51,833	3,80,98,040		
APPORTIONMENT.											
40. IRRIGATION WORKS	2,43,45,111	30,540	2,43,81,660	1,43,02,000	16,284	1,43,17,284	3,80,47,110	51,833	3,80,98,040		
43 M W. AND NAVIGATION, IMPERIAL.											
PROVINCIAL											

(a). Share of accounts excluded from 1913-14.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sirhind Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Occupiers' rates	6,88,20,808	39,53,905	7,27,80,771	10,831	2,602	13,679	6,88,37,799	39,56,067	7,27,94,447
Sales of water	3,86,270	26,000	4,12,270	18,810	15	18,855	4,05,110	26,015	4,31,125
Supply of towns	1,260	229	1,489	..	..	..	1,260	229	1,489
Receipts from Plantations ..	4,35,801	31,341	4,67,142	2,03,175	26,321	2,29,896	6,35,070	52,105	6,87,175
Receipts from other Canal produce	1,79,750	1,510	1,81,260	1,03,265	28	1,03,293	2,83,021	1,538	2,84,559
Water power	12,84,940	1,03,600	12,88,552	3,54,017	14,750	3,68,767	27,38,963	1,45,080	28,57,049
Navigation Receipts	2,11,676	9,793	2,21,470	1,03,908	5,110	1,09,255	3,15,654	15,141	3,30,725
Rent of Buildings	1,13,485	5,510	1,18,995	47,843	1,752	49,595	1,61,325	7,262	1,68,587
Fines	45,602	1,157	46,759	215	..	215	10,118	1,157	11,275
Miscellaneous and other Receipts	15,70,668	85,12	15,84,701	15,551	1,062	16,613	16,22,210	89,185	17,11,404
TOTAL	7,56,62,260	42,21,539	7,78,63,898	13,85,100	76,490	14,01,590	7,60,47,369	42,98,035	7,93,45,404
Share of Land Revenue collected in the Civil Department.	1,53,064	1,42,791	2,95,855	..	..	..	1,53,064	1,42,791	2,95,855
Interest on sale-proceeds of waste land benefited.	..	..	..	..	..	..	..	..	..
TOTAL RECEIPTS	7,88,15,333	43,64,330	7,81,79,663	13,85,100	76,490	14,01,590	7,82,09,433	44,40,826	7,96,50,259

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sirhind Canal Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

CHARGES.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(I.A.)—EXTENSIONS AND IMPROVEMENTS.									
(1)—HEAD WORKS ..	1,02,331	28,223	2,20,550	1,08,027	15,878	1,23,905	3,00,353	44,100	3,44,453
(2)—MAIN CANAL AND BRANCHES	10,11,091	44,447	10,50,638	18,14,746	(a) 1,03,989	10,18,745	28,26,337	1,48,440	29,74,788
(3)—DISTRIBUTARIES ..	6,31,930	60,400	7,44,380	14,232	..	14,202	6,90,252	60,400	7,58,032
(4)—DRAINAGE AND PROTECTIVE WORKS.	41,250	3,197	44,477	20,452	1,708	22,250	61,732	4,095	66,727
TOTAL I. A. ..	19,30,102	1,35,272	20,65,464	19,67,157	1,21,675	20,70,162	38,87,670	2,50,947	41,44,626
(I.B.)—MAINTENANCE AND REPAIRS									
(1)—HEAD WORKS ..	7,50,011	14,149	7,73,159	4,22,400	7,958	4,30,358	11,51,417	22,100	12,03,523
(2)—MAIN CANAL AND BRANCHES	39,59,876	3,47,602	43,07,478	27,01,160	1,90,860	28,61,116	63,21,122	8,47,471	68,68,693
(3)—DISTRIBUTARIES ..	43,82,991	1,84,513	45,71,507	358	..	356	43,83,360	1,89,813	45,72,173
(4)—DRAINAGE WORKS	5,02,320	24,051	5,27,301	3,13,705	14,231	3,27,939	8,10,025	39,215	8,55,240
TOTAL I. B. ...	96,04,201	5,75,611	1,01,79,716	30,67,724	2,12,061	33,10,781	1,27,01,924	7,97,605	1,34,99,529
(I.C.)—COMPENSATION									
(I.C.)—COMPENSATION ..	30,211	140	30,351	13,117	..	13,447	49,058	140	49,795
(II)—ESTABLISHMENT									
(8)—DIRECTION AND ACCOUNT	11,22,831	48,608	11,71,392	3,46,683	22,890	3,69,573	14,69,567	71,404	15,40,971
(9)—EXECUTIVE ESTABLISHMENT	40,09,001	{ + 7,451 2,30,263 }	{ + 7,451 6,05,160 }	17,91,962	{ 87,042 + 1,763 }	{ 18,75,804 + 1,703 }	61,60,763	{ 3,23,210 + 0,214 }	{ 67,83,973 + 0,214 }
(7)—MEDICAL Do ..	1,03,025	9,728	1,70,363	51,310	2,353	57,103	2,21,435	12,081	2,36,610
(7A)—REVENUE Do. ...	52,58,000	2,72,160	65,30,460	10,610	777	11,387	62,08,610	2,73,210	65,41,856
(7B)—NAVIGATION Do ..	20,930	147	21,077	..	..	..	20,933	147	21,077
(7D)—LEAVE AND PENSION ALLOWANCE (14 PER CENT. ON Rs 77,218)	..	..	..	3,09,379	15,042	3,25,021	3,09,379	+ 15,042	3,25,021
TOTAL ...	1,12,40,340	5,77,571	1,18,17,911	25,13,311	1,27,373	26,40,717	1,37,73,084	7,04,844	1,44,58,628

(a). Includes seigniorage amounting to Rs. 52,363 during the year and up to date Rs.

(b). Includes Rs 1,27,574 on account of fees for collection of Revenue.

(c). Share of account under Imperial excluded from 1914-15.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sirhind Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

CHARGES.	Imperial.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(III). TOOLS AND PLANT.									
(1).—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS.	1,717	—432	1,285	549	364	910	2,263	—87	2,196
(2).—PLANT AND MACHINERY	120	1,075	1,525	84	1,461	1,548	234	3,140	3,374
(3).—TOOLS ..	4,630	2,077	6,707	1,405	865	2,270	6,035	2,042	8,077
(4).—NAVIGATION ..	4,708	—10	4,698	2,407	443	2,850	7,10	433	7,549
(5).—CAMP EQUIPAGE ..	10,605	60	10,665	8,845	27	8,873	10,451	87	10,538
(6).—LIVE STOCK ..	...	..	..	..	..	...	...	...	...
(7).—OFFICE FURNITURE ..	1,035	370	2,314	986	325	1,311	2,021	703	3,024
(8).—REPAIRS AND CARRIAGE	1,35,264	20,407	1,55,071	50,615	6,863	67,448	1,05,000	27,510	2,23,519
MISCELLANEOUS. ...	3,10,400	—8,159	3,01,940	1,02,611	—602	1,01,801 } ÷ 18 }	4,12,020	27,510 —2,435 } (a) + 18 } —5,054 }	2,23,519 4,10,485 18 —5,054
TOTAL ..	4,68,410	16,084	4,65,507	1,77,430	6,680	1,87,110	4,40,840	25,777	6,72,626
(IV).—REFUNDS OF REVENUE.	78,867	651	70,521	2,598	3,370	6,555	81,469	4,524	86,087
(V).—PROFIT AND LOSS ..	372	..	372	85	..	85	457	...	457
(VI).—SUSPENSE ACCOUNT									
MISCELLANEOUS ADVANCES ..	...	..	..	2,227	—2,227	...	2,227	—2,227	...
STOCK ..	...	..	..	14,489	3,544	18,032	14,488	3,544	18,032
STOCK SALES ..	...	..	..	30	—30	...	30	—30	..
STOCK PURCHASES ..	...	..	..	—48	48	...	—48	48	...
TOTAL SUSPENSE ACCOUNT ..	..	...	..	16,507	1,336	18,032	16,507	1,335	18,032
TOTAL ..	5,33,59,602	13,05,269	2,46,64,871	77,78,900	4,80,103	82,63,012	3,11,38,411	17,91,372	3,29,20,783
Indirect Charges debitable to Revenue Account as per count No. 6	15,80,007	82,535	16,02,002	...	..	..	15,80,007	82,535	16,02,602
TOTAL CHARGES ..	2,49,39,080	13,87,801	2,63,27,473	77,78,900	4,80,103	82,61,012	3,27,18,478	18,73,907	3,45,92,385
Balance, Not Revenue ..	4,89,75,561	20,76,526	5,18,52,109	—63,83,709	—1,00,007	—58,03,316	4,24,81,055	25,68,010	4,50,49,874
GRAND TOTAL ..	7,38,15,333	48,01,330	7,91,79,053	13,36,100	76,405	14,01,506	7,52,00,433	44,40,820	7,96,41,259

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sirhind Canal Project.

No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount		Amount.
	Rs.		Rs.
Total Interest charges to end of 1915-16 ...	3,81,40,035	Net Revenue realized to end of 1915-16 ...	4,88,75,604
Do. for the year 1916-17 ...		Do. during 1916-17 ...	20,76,527
Total outlay to end of March 1917 = 2,43,81,680			
Less half outlay during 1916-17 = 18,274			
Mean capital at charge = 2,43,63,386			
Interest at 3 2004 per cent ...	8,03,114		
TOTAL ...	3,39,43,149		
Balance Revenue after defraying Interest charges	1,70,00,012		
TOTAL ...	5,18,52,101	TOTAL ...	5,18,52,101

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ...	3,20,000	...	3,20,000
Leave and Pension Allowances { Imperial ...	8,91,348	—204	8,91,054
{ Contribution ...	5,39,950	103	5,40,053
Total ...	17,51,307	—101	17,51,206
Deduct Leave and Pension allowances debited to Native States treated as direct charges and transferred to Account No. 2 of the canal.	5,39,950	103	5,40,053
Net debit to Imperial Canal ...	12,11,447	—204	12,11,153
REVENUE—			
Capitalization of abatement of Land Revenue ...	6,423	1,676	8,098
Leave and Pension Allowances { Imperial ...	15,73,644	80,880	16,54,524
{ Contribution ...	3,09,379	15,642	3,25,021
Total ...	18,89,446	98,177	19,87,623
Deduct Leave and Pension allowances debited to Native States treated as direct charges and transferred to Account No. 3 of the canal.	3,09,379	15,642	3,25,021
Net Imperial Revenue ...	15,80,067	82,535	16,62,602

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sirhind Canal Project.

No 0—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS			Total charges to date against-told and current sanctions	REMARKS
	Expenditure against Construction Estimate	Expenditure against open canal sanctions	Total.	Charges to date	Amount of Sanctioned Estimate	Unspent Balance of Estimate		
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
IMPERIAL								
DIRECT CHARGES—								
Works ..	1,56,33,073	1,97,723	1,75,11,39	13,251	15,560	309	1,75,24,647	L. O. No 317 W.I., dated 20-1-17 = Rs 13,084. L. G. No. 327 W.I., dated 19-1-17 = Rs 0,361 (a). L. G. No. 0657 W.I., dated 12-7-16 = Rs 8061. <u>30,466</u>
Establishment ...	40,71,854	3,88,500	40,00,354	—7,375	4,657	11,982	16,51,987	
Tools and Plant ..	20,52,353	25,180	21,06,040	—183	310	602	21,07,857	
Suspense Balance ..	..	..	..	2,07,567	..	—2,03,087	2,03,087	
Total ...	2,19,59,151	22,91,117	2,12,74,798	2,09,750	30,166	—1,78,014	2,44,80,178	
Less Receipts on Capital Account.	1,07,515	..	1,07,515	..	..	..	1,07,515	
Net Total ..	2,18,50,863	22,91,117	2,11,72,250	2,09,350	30,166	—1,78,014	2,13,81,06	
INDIRECT CHARGES—								
Capitalized obsolescence of Land Revenue.	1,16,270	1,820	3,20,090	..	..	..	3,20,090	
Leave and Pension Allowances.	3,37,691	54,391	8,02,067	—1,033	..	1,033	8,01,051	
Total ..	11,52,97	59,213	12,12,180	—1,033	..	1,033	12,11,151	
GRAND TOTAL ..	2,30,03,836	23,50,030	2,53,84,100	2,09,347	30,406	—1,77,881	2,55,02,511	L. O. No. 327 W.I., dated 19-1-17 = Rs. 5,265 (b)
CONTRIBUTION								
DIRECT CHARGES—								
Works	93,69,025	4,43,782	98,12,807	1,309	1,407	3,095	98,14,116	
Establishment ...	32,60,601	1,01,110	33,67,711	2,580	802	—1,787	33,70,804	
Tools and Plant ..	11,96,990	8,712	12,01,002	—214	56	271	12,01,178	
Suspense Balance ..	..	..	..	..	..	..	..
Total ..	1,38,21,600	5,50,004	1,43,82,213	3,084	5,265	1,581	1,43,86,405	
Less Receipts on Capital Account.	88,603	15	88,608	..	..	..	88,608	
Net Total ..	1,37,44,010	5,50,589	1,43,13,005	3,084	5,265	1,581	1,43,17,286	
GRAND TOTAL ..	1,37,03,010	5,50,589	1,43,13,605	3,581	5,266	1,581	1,43,17,286	

OFFICE OF ACCOUNTANT-GENERAL

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Chenab Canal Project.

No 2 — CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT	DIRECT CHARGES.			Cost of construction as now estimated Construction Estimate closed on 31st March 1900.	Expenditure against closed Estimates.
	Imperial.				
	Previous.	1916-17	Total		
	Rs.	Rs.	Rs.	Rs.	Rs.
1.—WORKS—					
1.—HEAD WORKS—					
A—Preliminary Expenses	5,710	..	5,710		
B.—Land	64,105	..	64,105		
C.—Works	50,47,622	3,06,244	53,53,866		
K—Buildings	1,01,428	—3,527	7,901		
O—Miscellaneous	6,084	..	6,084		
P—Maintenance	1,68,784	..	1,68,784		
Total	53,93,733	3,02,717	56,06,450		
2.—MAIN CANAL AND BRANCHES—					
A—Preliminary Expenses	1,26,369	..	1,26,369		
B.—Land	2,15,279	..	2,15,279		
D—Regulators	10,84,440	17,666	11,02,116		
E.—Falls and Weirs	6,18,284	..	6,18,284		
F. (1).—Other Cross Drainage Works ..	6,87,002	..	6,87,002		
G.—Bridges	10,00,607	..	10,60,607		
H.—Escapes	5,42,313	..	5,42,313		
J.—Mills	73,020	..	73,020		
K.—Buildings	17,04,404	1,878	17,06,082		
L.—Earthwork	75,22,756	8,755	75,26,511		
M.—Plantations	1,39,734	..	1,39,734		
O.—Miscellaneous	4,34,841	—32,417	4,02,424		
P.—Maintenance	1,05,047	..	1,05,047		
Total	1,43,14,105	—9,318	1,43,04,787		
—DISTRIBUTARIES—					
A—Preliminary Expenses	1,34,668	3,912	1,38,580		
B.—Land	1,17,868	12 5	1,22,993		
C.—Works	15,76,831	63,076	18,40,507		
L.—Earthwork	25,65,825	45	25,14,801		
O.—Miscellaneous	4,76,221	2,920	4,79,141		
P.—Maintenance	34,70	..	34,670		
Total	52,06,083	1,24,615	53,30,598		

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Chenab Canal Project.

N. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated (Construction Estimate closed on 31st March 1900).	Expenditure against closed Estimates.
	Imperial.				
	Previous.	1916-17	Total.		
4. DRAINAGE AND PROTECTIVE WORKS—	Rs.	Rs.	Rs.	Rs.	Rs.
A.—Preliminary Expenses	10,771	..	10,771		
B.—Land	21,602	..	24,602		
C.—Works	38,271	9,175	47,446		
L.—Earthwork	1,75,896	2,850	1,78,730		
O.—Miscellaneous	37,413	137	37,550		
P.—Maintenance	1,162	..	1,162		
TOTAL ..	2,97,105	12,162	3,09,267	..	..
TOTAL I.—WORKS ..	2,97,105	12,162	3,09,267	2,02,17,146	2,45,70,000
II.—ESTABLISHMENT.					
5. DIRECTION	12,57,525	16,827	12,74,352		
6. EXECUTIVE	34,39,307	70,437	35,09,744		
7. MEDICAL	62,175	..	62,175		
8. SPECIAL SURVEY					
8½. SPECIAL FIELD SURVEY					
LEAVE AND PENSION ALLOWANCES					
TOTAL ..	47,57,007	87,264	48,44,271	48,08,852	46,39,907
III.—TOOLS AND PLANT.					
9. NAVIGATION PLANT.. ..					
10. MILL PLANT					
11. RAILWAY PLANT AND ROLLING-STOCK	15,000	..	15,000		
12. MISCELLANEOUS	5,15,976	6,215	5,22,191		
13. REPAIRS AND CARRIAGE	1,02,325	..	1,02,325		
LOST BY EXCHANGE					
TOTAL ..	5,33,301	6,215	5,39,516	7,27,365	6,40,125
IV.—SUSPENSE ACCOUNT.					
14. STOCK	5,03,578	—10,452	4,93,126		
15. STOCK PURCHASES	—34,735	20,658	—14,077		
15½. STOCK SALES	3,845	—3,775	70		
16. MISCELLANEOUS ADVANCES	3,324	7,634	10,958		
17. LONDON INVOICES					
18. LONDON STOCKS					
TOTAL ..	4,75,905	22,466	4,98,371	..	..
GRAND TOTAL ..	3,10,47,302	5,46,021	3,15,93,323	3,18,73,369	2,98,34,158
V.—LESS RECEIPTS ON CAPITAL ACCOUNT.	14,403	..	14,403	14,403	14,403
NET TOTAL ..	3,10,32,899	5,46,021	3,15,78,920	3,18,58,966	2,98,19,749
APPORTIONMENT.					
40. IRRIGATION WORKS	3,10,16,189	5,46,021	3,15,62,210	..	..
42. M. W. AND NAVIGATION, IMPERIAL	11,410	..	11,410	..	..

(a). Excludes share of accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Chenab Canal Project

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates ...	12,29,04,017	86,03,040	13,15,67,053	I.A.—EXTENSIONS AND IMPROVEMENTS			
Owners' rates on irrigated land.	58,13,828		58,13,828	1.—HEAD WORKS ...	14,86,476	2,36,716	17,23,192
Sales of water	2,50,403	20,342	2,70,745	2.—MAIN CANAL AND BRANCHES	12,12,420	41,693	12,57,122
Supply of Towns	13,477	5,056	18,533	3.—DISTRICTIONARIES ...	13,22,560	2,18,500	15,41,132
Receipts from plantations	1,63,729	16,070	1,79,799	4.—DRAINAGE AND PROTECTIVE WORKS	1,25,272	29,138	1,54,410
Receipts from other Canal produce.	81,938	180	82,118	TOTAL I. A. ...	41,46,748	5,29,112	46,75,866
Water power	1,68,617	13,119	1,81,736	II.B.—MAINTENANCE AND REPAIRS.			
Rent of Buildings	2,00,700	12,536	2,13,236	1.—HEAD WORKS	17,67,347	1,10,516	19,08,022
Fines	31,914	1,791	33,705	2.—MAIN CANAL AND BRANCHES	64,43,715	4,82,110	69,25,828
Miscellaneous and other Receipts.	4,39,701	15,704	4,55,405	3.—DISTRICTIONARIES	13,95,750	2,50,669	16,46,419
Total	1,01,79,545	87,62,117	1,09,41,662	4.—DRAINAGE WORKS	66,470	24,131	90,601
Share of Land Revenue collected in the Civil Department.	3,60,32,441	11,62,751	4,71,95,192	TOTAL I. B. ...	1,47,93,239	5,70,616	1,53,63,855
Interest on sale proceeds of waste land benefited.	10,05,051	9,05,213	19,10,264	I.C.—COMPENSATION.	1,05,980	2,000	1,07,980
				II.—ESTABLISHMENT.			
				5.—DIRECTION AND ACCOUNT.	12,17,507	61,051	12,78,558
				6.—EXECUTIVE ESTABLISHMENT.	60,72,633	5,03,696	65,76,329
				7.—MEDICAL ESTABLISHMENT.	3,50,607	27,548	3,78,155
				7A.—RESERVE ESTABLISHMENT.	50,94,120	6,13,612	57,07,732
				TOTAL ...	1,27,41,317	11,07,227	1,38,48,544
				III.—TOOLS AND PLANT			
				1.—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIAL	1,002	513	1,515
				2.—PLANT AND MACHINERY	23,000	15,044	38,044
				3.—TOOLS	5,755	7,893	13,648
				4.—NAVIGATION PLANT	613	517	1,130
				5.—CAMP EQUIPMENT	1,000	424	1,424
				6.—LIVE STOCK	114	286	400
				7.—OFFICE FURNITURE	2,028	2,329	4,357
				8.—MISCELLANEOUS	4,66,131	1,671	4,67,802
				9.—REPAIRS AND CARRIAGE	2,28,415	12,105	2,40,520
				10.—MILL PLANT	5,800		5,800
				11.—RAILWAY PLANT AND ROLLING STOCK.	51,070		51,070
				TOTAL	7,70,160	48,195	8,18,355
				IV.—Refund of Revenue	1,17,753	341	1,18,094
				TOTAL	3,81,82,274	25,97,018	4,07,79,292
				Indirect charges debitable to Revenue Account as per Account No 5	22,91,012	1,54,100	24,45,112
Total	4,70,11,982	80,68,027	5,50,80,009	Total Charges	3,84,76,286	27,51,118	4,12,27,404
TOTAL RECEIPTS	17,52,11,827	1,68,30,444	19,20,42,271	Balance, Net Revenue	13,67,75,811	1,41,10,322	15,08,86,133
				GRAND TOTAL	17,52,11,827	1,68,30,444	19,20,42,271

(a) Excludes share of acc. units commencing from 1912-13.

(b) Includes Rs. 2,61,712 on account of Lamberla's fee for collection of Revenue.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Chenab Canal Project.

No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
Total Interest charges to end of 1915-16 ...	Rs. 2,26,74,051	Net Revenue realized to end of 1915-16 ..	Rs. 13,07,35,841
Do. for the year 1916-17 ...		Do. during 1916-17 ..	1,41,10,820
Total outlay to end of 31st March 1917 = 3,16,78,320			
Less half the outlay during 1916-17 = 2,73,011			
Mean capital at charge .. = 3,13,05,909			
Interest at 3.2984 per cent. ..	10,31,068		
Total ..	2,37,00,619		
Balance Revenue after defraying Interest charges ..	12,71,30,042		
Total ..	15,08,45,661	Total ..	16,08,46,000

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ..	1,02,219		1,02,219
Leave and Pension Allowances ..	6,01,862	12,217	6,73,879
Total ..	7,03,881	12,217	7,70,998
REVENUE—			
Capitalization of abatement of Land Revenue ..	3,226	26	3,250
Leave and Pension Allowances ..	22,87,787	1,55,051	24,42,838
Total ..	22,91,012	1,55,109	24,40,118

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate.	Expenditure against open canal sanctions.	Total	Charges to date.	Amount of Sanctions of Estimate.	Unspent Balance of Estimate.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
DIRECT CHARGES—								
Works ..	1,89,23,202	10,49,858	2,46,70,000	10,71,042	16,77,086	6,06,044	2,56,41,102	G. I. 471 = 4,03,153 16-1-16 Do 0-0-1 = 1,75,752 8-4-14 Du 521-1 = 1,72,701 16-3-14 Do 603-1 = 2,25,338 6-4-14 Do 1200-1 = 1,48,007 21-2-14 Do 53-1 = 80,164 16-1-15 L.G. 618 W.I. = 13,972 29-6-16 Do 0137-1 W.I. = 11,103 16-8-16 Do 1008 W.I. = 2,348 7-8-16 Do 1243 W.I. = 30,423 5-8-16 G. I. 0050-1 = 1,76,036 27-9-16 L.G. 2581 W.I. = 3,068 20-1-11-16 775-1 G. I. 58-1 = 3,12,114 21-11-16 L.G. 74 W.I. = 18,065 8-12-16 Do 334 W.I. = 9,390 7-12-16 Do 73 W.I. = 751 8-12-16 G. I. 115-1 = 2,03,391 20-2-17 Total .. 20,30,211
Establishment ..	30,10,000	9,83,901	10,23,967	1,00,301	2,74,886	84,581	48,14,271	
Tools and Plant ..	5,02,825	17,500	6,10,125	—600	87,240	87,540	9,39,519	
Suspense Balances ..				4,98,431		—4,98,431	4,98,431	
Total ..	2,44,50,003	10,78,659	2,55,34,662	17,69,171	20,39,211	2,80,040	3,15,03,325	
Less Receipts on Capital Account.	14,403		14,403				14,403	
Not Total ..	2,44,41,000	10,78,659	2,55,19,740	17,69,171	20,39,211	2,80,040	3,15,78,020	
INDIRECT CHARGES—								
Capitalized abatement of Land Revenue ..	2,060	9,810	1,01,500	360		—350	1,02,219	
Leave and Pension Allowances ..	6,09,390	1,77,746	6,47,236	20,813		—20,043	6,73,879	
Total ..	6,01,510	1,47,556	7,55,106	20,973		—20,393	7,70,068	
GRAND TOTAL ..	2,47,13,230	58,25,615	3,05,08,845	17,86,104	20,39,211	2,53,017	3,23,53,018	

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Sutlej Inundation Canal Project.

No. (2).—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.				DIRECT CHARGES.			Cost of construction as now estimated (Construction Estimate closed on 31st March)	Expenditure against closed Estimate.
				Imperial.				
				Previous	1916-17.	Total.		
				Rs.	Rs.	Rs.	Rs.	Rs.
I.—WORKS.								
2. MAIN CANAL AND BRANCHES—								
A.—Preliminary Expenses				3,849	...	3,849		
B.—Land				43,848	...	43,848		
D.—Regulators				30,512	...	30,512		
E.—Falls and Weirs				69,015	...	69,015		
G.—Bridges				52,402	...	52,402		
K.—Buildings				2,20,802	581	2,20,883		
L.—Earthwork				5,62,555	...	5,62,555		
O.—Miscellaneous				5,112	...	5,112		
P.—Maintenance				2,457	..	2,457		
TOTAL				9,80,142	581	9,80,723		
3. DISTRIBUTARIES—								
A.—Preliminary Expenses				3,842	...	3,842		
B.—Land				45,782	...	45,782		
C.—Works				82,930	...	82,930		
L.—Earthwork				2,35,365	..	2,35,365		
O.—Miscellaneous				22,941	...	22,941		
P.—Maintenance				4,652	...	4,652		
TOTAL				3,95,512	...	3,95,512		
TOTAL I.—WORKS				13,75,654	581	13,76,235	13,76,235	13,76,235
II.—ESTABLISHMENT.								
5. DIRECTION				(a) 54,888	21	54,909		
6. EXECUTIVE				2,37,272	78	2,37,350		
7. MEDICAL				2,953	...	2,953		
TOTAL				2,95,113	99	2,95,212	2,95,212	2,95,212
III.—TOOLS AND PLANT.								
12. MISCELLANEOUS				24,566	7	24,573		
13. REPAIRS AND CARRIAGE				114	...	114		
TOTAL				24,680	7	24,687	24,687	24,687
IV.—SUSPENSE ACCOUNT.								
14. STOCK				21,982	680	22,662		
15. STOCK SALES				1	2	3		
16. MISCELLANEOUS ADVANCES				80	82	162		
TOTAL				22,063	764	22,827		
GRAND TOTAL				17,17,510	1,451	17,18,961	16,96,134	16,96,134
V.—LESS RECEIPTS ON CAPITAL ACCOUNT				156	...	156	156	156
NET TOTAL				17,17,354	1,451	17,18,805	16,95,978	16,95,978
APPORTIONMENT.								
49. IRRIGATION WORKS				9,27,447	1,451	9,28,898		
43. M. W. AND NAVIGATION, PROVINCIAL				7,89,907	...	7,89,907		

(a). Share of accounts excluded from 1912-13.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Sutlej Inundation Canal Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rate ...	84,16,112	3,78,069	87,93,181	I.A.—EXTENSIONS AND IMPROVEMENTS.			
Owners' rates on irrigated land.	17,732	..	17,732	2.—MAIN CANAL AND BRANCHES.	4,26,653	4,408	4,24,961
Sales of water ...	3,038	70	3,108	3.—DISTRIBUTARIES ...	1,74,432	9,520	1,83,952
Receipts from Plantations	1,24,716	5,078	1,29,794	4.—DRAINAGE AND PROTECTIVE WORKS.	1,158	..	1,158
Receipts from other Canal produce.	76,280	312	76,592	TOTAL I.A.	5,06,143	13,928	5,20,071
Rent of Buildings ...	5,989	1,254	7,243	I.B. MAINTENANCE AND REPAIRS.			
Fines ...	2,25,085	60	2,25,145	1.—HEAD WORKS ...	10,370	..	10,370
Miscellaneous and other Receipts.	23,436	5,169	28,605	2.—MAIN CANAL AND BRANCHES.	17,68,593	2,09,214	19,77,807
Contribution ..	22,435	..	22,435	3.—DISTRIBUTARIES ..	8,79,220	48,290	9,27,510
Total ...	99,12,022	3,93,036	103,05,058	TOTAL I.B.	50,63,201	2,57,504	53,20,705
Share of Land Revenue collected in the Civil Department.	74,81,006	2,10,100	76,91,106	I.C.—COMPENSATION	8,695	..	8,695
Interest on sale-proceeds of waste lands benefited.	84,032	5,908	89,940	II.—ESTABLISHMENT.			
Total ..	75,78,038	2,16,008	77,94,046	5.—DIRECTION AND ACCOUNT.	(a) 6,93,341	12,798	7,06,139
				6.—EXECUTIVE ESTABLISHMENT.	22,08,762	76,213	22,84,975
				7.—MEDICAL DO. ..	30,039	1,506	31,545
				7A.—REFRIG. DO. ..	13,22,400	6150,800	13,78,272
				TOTAL ..	42,65,000	1,47,023	44,12,023
				III. TOOLS AND PLANT			
				1.—SCIENTIFIC INSTRUMENTS.	222	103	325
				2.—PLANTS AND MACHINERY.	..	..	..
				3.—TOOLS ..	848	229	1,077
				4.—NAVIGATION PLANT ..	916	..	916
				5.—CAMP EQUIPMENT ..	40	35	75
				6.—LIVE STOCK ..	..	..	..
				7.—OFFICE FURNITURE ..	694	—47	647
				8.—REPAIRS AND CARRIAGE	25,740	1,000	26,740
				MISCELLANEOUS ..	45,210	—7	45,203
				TOTAL ..	74,562	1,070	75,632
				IV.—REFUNDS OF REVENUE.	25,591	210	25,801
				V PROFIT AND LOSS	379	..	379
				TOTAL ..	1,00,29,802	1,20,911	1,01,50,713
				Indirect charges debitable to Revenue Account as per Account No 5.	6,00,300	20,007	6,20,307
				TOTAL CHARGES ..	1,12,96,002	4,41,806	1,17,37,808
				Balance, Not Revenue ..	51,97,955	1,87,398	53,85,353
TOTAL RECEIPTS ..	1,04,91,560	6,06,004	1,10,97,564	GRAND TOTAL ..	1,64,91,560	6,06,004	1,70,97,564

(a). Share of accounts excluded from 1912-13.

(b). Includes Rs. 10,288 on account of fees for collection of Revenue.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Sutlej Inundation Project.

No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1916-16 ..	21,05,531	Net Revenue realized to end of 1916-16 ..	51,05,968
Do. for the year 1916-17.		Do. during 1916-17	1,47,396
Total outlay to 31st March 1917=Rs. 17,18,805.			
Less, half outlay during 1916-17 ..	726		
Mean capital at charge ..	17,18,079.		
Interest at 3-2064 per cent ..	56,634		
Total Interest charges ..	22,23,165		
Balance Revenue after defraying Interest charges	31,40,189		
Total ..	53,63,354	Total ..	53,63,354

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ..	58,032	...	58,032
Leave and Pension Allowances ...	42,094	14	42,008
Total ...	1,01,027	14	1,01,011
REVENUE—			
Capitalization abatement of Land Revenue	10,648	...	10,648
Leave and Pension Allowances ...	6,55,052	29,067	6,76,319
Total ...	6,65,500	29,081	6,86,967

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE

PARTICULARS.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS.			Total charges to date against old and current sanctions.
	Expenditure against Construction Estimate	Expenditure against open canal sanctions	Total	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
DIRECT CHARGES—							
Works ...	10,07,701	3,68,474	13,76,235	...	...	...	13,76,235
Establishment ...	2,24,759	70,453	2,95,212	...	...	...	2,95,212
Tools and Plant ...	20,068	4,019	24,087	...	...	...	24,087
So-pense Balance	...	...	...	22,827	...	-22,827	22,827
Total ...	12,52,528	4,42,946	16,95,474	22,827	...	-22,827	17,18,805
Less Receipts on Capital Account	150	...	150	...	...	...	150
Net Total ..	12,52,431	4,43,616	16,95,978	22,827	...	-22,827	17,18,805
INDIRECT CHARGES—							
Capitalized abatement of Land Revenue.	58,031	4,352	58,033	...	...	...	58,033
Leave and Pension Allowances ..	33,148	9,860	43,008	...	...	...	43,008
Total ...	86,920	24,212	1,01,041	...	...	...	1,01,041
GRAND TOTAL ..	13,30,701	4,57,290	17,97,011	22,827	...	-22,827	18,10,845

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Siddhahi Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEAD OF ACCOUNT.	DIRECT CHARGES.			Cost of construction now estimated (Construction Estimate closed on 31st March 1892.)	Expenditure against closed Estimates
	Imperial.				
	Previous.	1916-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
I.—WORKS.					
HEAD WORKS—					
A.—Preliminary Expenses	754	...	754		
B.—Land	236	...	236		
C.—Works	2,46,260	...	2,46,260		
K.—Buildings	11,646	...	11,646		
O.—Miscellaneous	391	...	391		
Total	2,59,286	...	2,59,286		
2.—MAIN CANAL AND BRANCHES—					
A.—Preliminary Expenses	4,014	...	4,014		
B.—Land	22,422	...	22,422		
D.—Regulators	49,568	...	49,568		
G.—Bridges	44,980	...	44,980		
K.—Buildings	80,789	...	80,789		
L.—Earthwork	2,58,996	...	2,58,996		
M.—Plantations	821	...	821		
O.—Miscellaneous	427	...	427		
P.—Maintenance	5,394	...	5,394		
TOTAL	4,07,411	...	4,07,411		
3. DISTRIBUTARIES—					
A.—Preliminary Expenses	3,905	...	3,905		
B.—Land	11,387	...	11,387		
C.—Works	66,622	...	66,622		
L.—Earthwork	1,36,784	...	1,36,784		
O.—Miscellaneous	165	...	165		
TOTAL	2,18,923	...	2,18,923		

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sidhna Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEAD OF ACCOUNT	DIRECT CHARGES			Cost of construction as now estimated (Construction Estimate closed on 31st March 1892.)	Expenditure against closed Estimates.
	Imperial.				
	Previous.	1916-17.	Total.		
	Rs.	Rs.		Rs.	Rs.
4. DRAINAGE AND PROTECTIVE WORKS—					
A.—Preliminary Expenses	36	...	36		
TOTAL	36	...	36		
TOTAL I.—WORKS	9,45,656	...	9,45,656	9,45,656	9,45,656
II.—ESTABLISHMENT.					
5. DIRECTION	49,445	57	(a) 49,502		
6. EXECUTIVE	2,14,741	...	2,14,741		
7. MEDICAL					
TOTAL	2,64,146	57	2,64,243	2,64,243	2,64,243
III.—TOOLS AND PLANT					
12. MISCELLANEOUS	35,039	..	35 039		
13. REPAIRS AND CARRIAGE					
TOTAL	35,039	...	35,039	35,039	35,039
IV.—SUSPENSE ACCOUNT					
14. STOCK PURCHASES	102	—1,104	—1,210		
15. STOCK SALES	35	699	725		
16. MISCELLANEOUS ADVANCES	145	676	861		
17. STOCK	42,958	4,207	47,175		
TOTAL	43,047	4 461	47,501		
GRAND TOTAL	12,90,668	4,521	12 95 489	13,47,938	12,47,938
V.—Less RECEIPTS ON CAPITAL ACCOUNT	224	..	224	224	224
Net Total	12,90,744	4,521	12 95 265	12,47,714	12,47,714
APPORTIONMENT.					
49.—IRRIGATION WORKS	12,72,133	4,521	12 76 659		
43.—M. W. AND NAVIGATION	18,306	..	18 306		0
	IMPERIAL				
	PROVINCIAL				

(a). Excluding share of accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sikhni Canal Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGE.	IMPERIAL.		
	Previous	1916-17.	Total		Previous	1916-17.	Total
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates ...	90,30,604	4,64,104	94,94,708	I A—EXTENSIONS AND IMPROVEMENTS			
				1—HEAD WORKS ..	29,480	1,870	31,350
				2—MAIN CANAL AND BRANCHES ..	1,72,502	4,021	1,76,523
				3—DISTRIBUTARIES ..	75,711	5,100	80,817
Sales of water ...	42,631	2,157	44,788	4—DRAINAGE AND PROTECTIVE WORKS ..	508	...	508
				TOTAL I A	2,78,181	11,000	2,89,187
				I B—MAINTENANCE AND REPAIRS			
Receipts from Plantations	5,726	257	5,983	1—HEAD WORKS ...	3,31,308	9,418	3,40,721
				2—MAIN CANAL AND BRANCHES ..	8,08,268	24,382	8,32,650
Receipts from other Canal produce.	8,780	257	9,037	3—DISTRIBUTARIES ..	5,18,511	10,578	5,29,089
				TOTAL I B	17,48,087	51,373	18,02,460
				I C—COMPENSATION	231	..	231
Rent of buildings ...	18,783	212	19,000	II—ESTABLISHMENT			
				5—DIRECTOR AND ACCOUNT	(a) 1,45,477	4,831	1,50,308
Fines ...	7,321	345	7,666	6—EXECUTIVE ESTABLISHMENT	7,50,550	30,375	7,80,925
				7—MEDICAL ESTABLISHMENT	17,107	1,742	18,849
Miscellaneous and other Receipts	13,693	1,367	15,060	9—REVENUE ESTABLISHMENT	0,00,737	33,117	33,854
				TOTAL ..	15,50,210	70,061	16,20,274
				III—TOOLS AND PLANT			
				1—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS	298	250	548
Total	91,27,406	4,56,770	95,84,176	2—PLANT AND MACHINERY	218	73	291
				3—TOOLS ..	...	120	120
				4—NAVIGATION PLANT ..	101	375	476
				5—CAMP EQUIPAGE ..	...	221	221
Share of Land Revenue collected in the Civil Department.	16,16,175	1,10,461	17,26,636	6—LIVY STOCK ..	...	...	...
				7—OFFICE FURNITURE ..	280	188	468
				8—VEHICLES AND CARRIAGE ..	40,162	2,537	42,699
				12—MISCELLANEOUS ..	21,844	—600	21,244
				TOTAL ..	53,283	3,600	56,883
Interest on sale-proceeds of waste lands benefited	3,21,761	20,853	3,42,614	IV—REFUNDS OF REVENUE			
				1—...	1,500	371	1,871
				TOTAL ..	30,31,568	1,48,817	31,80,385
				Indirect Charges debitable to Revenue Account as per Account No. 5.	2,17,314	11,060	2,28,374
Total	19,40,239	1,31,344	20,71,583	TOTAL CHARGES	38,48,882	1,59,386	40,08,268
				Balance, Not Revenue ..	72,18,853	1,30,737	73,49,590
TOTAL RECEIPTS	1,10,67,736	5,00,123	1,15,67,859	GRAND TOTAL	1,10,67,728	5,00,123	1,15,67,851

(a). Share of Account, excluded from III 12-13.

(b). Includes Rs 5,440 on account of fees for collection of Revenue

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sidhnai Canal Project.

No 4—INTEREST ACCOUNT FOR AND TO END OF 1916-17

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1916-16 ...	12,85,333	Net Revenue realized to end of 1916-16 ...	72,18,852
Do for the year 1916-17 ..	-	Do during 1916-17 ...	4,30,737
Total outlay up to 31st March 1917 = Rs. 12,85,265	-		
Less half outlay during 1916-17 ..	2,209		
Mean Capital at charge ..	12,83,056		
Interest at 3'296½ per cent ...	42,023		
Total ..	13,27,956		
Balance Revenue after defraying Interest charges ..	63,21,634		
Total ..	76,49,590	Total ..	76,49,590

No 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

PARTICULARS.	Previous	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ..	3,328	...	3,328
Leave and Pension Allowances ...	36,899	8	36,897
Total ..	40,217	8	40,225
REVENUE —			
Capitalization of abatement of Land Revenue ..	285	...	285
Leave and Pension Allowances ..	2,17,029	11,069	2,28,098
Total ..	2,17,314	11,069	2,28,383
GRAND TOTAL ..	2,57,531	11,077	2,68,608

No 6—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS	CHARGES AGAINST CLOSED SANCTIONS			CURRENT SANCTIONS.			Total charges to date against old and current sanctions	REMARKS.
	Expenditure against Construction Estimate	Expenditure against open canal sanctions	Total	Charges to date.	Amount of Sanctioned Estimate	Unspent Balance of Estimate.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES—								
Works ..	7,91,204	2,44,452	9,45,656	...	...	...	9,45,656	
Establishment ..	2,04,893	50,140	2,54,243	...	...	...	2,54,243	
Tools and Plant ...	22,253	15,786	38,039	...	...	...	38,039	
Suspense Balance ..	...	...	...	47,551	...	—47,551	47,551	
TOTAL ...	9,28,200	3,19,678	12,47,938	47,551	...	—47,551	12,95,480	
Less Receipts on Capital Account.	224	...	224	...	...	...	224	
NET TOTAL ...	9,28,936	3,19,678	12,47,714	47,551	...	—47,551	12,95,205	
INDIRECT CHARGES—								
Capitalized abatement of Land Revenue—	2,991	334	3,328	...	...	...	3,328	
Leave and Pension Allowances.	28,576	8,321	36,897	...	...	...	36,897	
TOTAL ...	31,570	8,655	40,225	...	...	...	40,225	
GRAND TOTAL ...	9,59,606	3,28,333	12,87,939	47,551	...	—47,551	13,35,490	

IRRIGATION BRANCH.

OFFICE OF ACCOUNTANT-GENERAL,

PUNJAB PROVINCE.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Jhelum Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT	DIRECT CHARGES.			Cost of construction as now estimated.	Expenditure against these Estimates.
	Imperial.				
	Previous.	1916-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
1.—WORKS.					
1.—HEAD WORKS—					
A.—Preliminary Expenses	12,619	...	12,619	...	
B.—Land	31,772	...	31,772	...	
C.—Works	29,70,571	—210	29,70,361	..	
K.—Buildings	1,28,078	2,111	1,31,089	...	
O.—Miscellaneous	10,273	.	10,273	...	
P.—Maintenance	28,020	..	28,020	..	
TOTAL ..	31,91,233	1,901	31,93,134	..	
2.—MAIN CANAL AND BRANCHES—					
A.—Preliminary Expenses	93,230	203	93,623	...	
B.—Land	2,49,781	..	2,49,781	...	
D.—Regulators	2,71,286	..	2,71,286	...	
E.—Falls and Weirs	2,34,947	..	2,34,947	..	
F.—(1)—Other Cross Drainage Works ..	1,20,258	...	1,20,258	...	
G.—Bridges	6,91,284	...	6,91,284	..	
H.—Escapes	4,78,540	...	4,78,540	...	
J.—Mills	1,07,620	...	1,07,620	...	
K.—Buildings	10,30,547	7,871	10,38,418	..	
L.—Earthwork	22,93,007	.	22,93,007	...	
M.—Plantations	86,170	...	86,170	...	
O.—Miscellaneous	46,624	833	46,457	...	
P.—Maintenance	32,373	...	32,373	...	
TOTAL ..	57,34,076	8,907	57,43,073	...	
3.—DISTRIBUTARIES—					
A.—Preliminary Expenses	61,101	...	61,101	...	
B.—Land	1,40,709	...	1,40,709	...	
C.—Works	15,26,458	9,860	15,36,318	...	
L.—Earthwork	13,37,876	1,400	13,39,306	...	
O.—Miscellaneous	5,69,711	—2,171	5,67,540	...	
P.—Maintenance	4,003	...	4,003	...	
TOTAL ..	30,36,517	9,179	30,45,696	..	

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Jhelum Canal Project.

No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated.	Expenditure against closed Estimates.
	Imperial.				
	Previous.	1916-17.	Total.		
	Rs. °	Ra	Ra.	Ra.	Ra.
4.—DRAINAGE AND PROTECTIVE WORKS—	21,355	..	21,355	..	
A.—Preliminary Expenses					
B.—Land	13,635	..	13,635	..	
C.—Works	2,884	..	2,884	..	
L.—Earthwork	52,353	..	52,353	..	
O.—Miscellaneous	1,759	..	1,759	..	
TOTAL ..	91,990	..	91,990	..	
TOTAL I.—WORKS ..	1,20,54,410	20,077	1,20,74,487	1,48,95,807	
II.—ESTABLISHMENT.					
5.—DIRECTION	6,01,514	897	5,02,411	..	
6.—EXECUTIVE	15,13,366	3,360	15,10,762	..	
7.—MEDICAL	20,613	..	20,613	..	
8.—SPECIAL SURVEY	42,062	..	42,062	..	
TOTAL ..	21,50,675	4,257	21,50,865	22,30,200	
III.—TOOLS AND PLANT.					
9.—NAVIGATION PLANT	50	..	50	..	
12.—MISCELLANEOUS	3,00,041	299	3,00,340	..	
13.—REPAIRS AND CARRIAGE	62,506	..	62,506	..	
TOTAL ..	3,62,047	299	3,62,356	4,22,715	
IV.—SUSPENSE ACCOUNT.					
14.—Stock	4,12,553	—31,745	3,80,808	..	
15.—Stock PURCHASES	—2,218	—1,423	—3,641	..	
15a.—Stock SALES	5	52	57	..	
16.—MISCELLANEOUS ADVANCES	3,115	—2,590	525	..	
18.—LONDON STORES .. .. .	..	..	..	..
TOTAL ..	4,13,455	—33,706	3,77,749	2,00,000	
GRAND TOTAL ..	1,5,17,103	—11,017	1,50,00,056	1,84,55,782	
V.—LESS RECEIPTS ON CAPITAL ACCOUNT	40,162	22,147	62,000	60,000	
NET TOTAL ..	1,55,76,641	—33,194	1,55,43,447	1,83,95,782	
APPORTIONMENT.					
49.—IRRIGATION WORKS	1,55,76,641	—33,194	1,55,43,447	..	

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Jhelum Canal Project.

Mo. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates ..	2,33,10,687	20,10,110	2,62,20,806	I A.—EXTENSIONS AND IMPROVEMENTS.			
Sales of water ..	96,800	10,082	1,06,882	1.—HEAD WORKS	4,40,021	32,933	4,86,954
Supply of towns ..	4,054	1,282	5,336	2.—MAIN CANAL AND BRANCHES.	1,76,031	7,882	1,82,913
Receipts from Plantations	23,850	4,216	31,806	3.—DISTRIBUTARIES	2,31,679	24,337	2,56,016
Receipts from other Canal produce	9,115	943	10,058	4.—DRAINAGE AND PROTECTIVE WORKS	3,987	2,310	6,297
Water power ..	1,56,504	32,977	1,89,481	TOTAL I A.	8,59,778	72,462	9,32,240
Rent of Buildings ..	87,011	5,710	92,721	I B.—MAINTENANCE AND REPAIRS.			
Fines ..	10,824	400	11,320	1.—HEAD WORKS	6,26,561	99,351	7,25,922
Miscellaneous and other Receipts.	1,02,902	8,159	1,11,061	2.—MAIN CANAL AND BRANCHES.	18,76,108	98,843	10,74,951
Total ..	2,38,69,497	21,74,283	2,67,80,778	3.—DISTRIBUTARIES	17,00,374	92,944	17,93,298
				4.—DRAINAGE AND PROTECTIVE WORKS	65,873	3,457	69,321
				TOTAL I B.	42,08,865	2,04,535	45,03,400
				I C.—COMPENSATION	5,947	...	5,947
				11.—ESTABLISHMENT.			
				5.—DIRECTION AND ACCOUNT	4,50,780	56,251	(b) 5,07,067
				6.—EXECUTIVE ESTABLISHMENT.	19,14,332	2,26,343	21,40,675
				7.—MEDICAL Do ..	1,17,664	12,757	1,30,421
				7A.—REVENUE Do ..	21,77,446	2,05,626	23,83,080
				TOTAL ..	46,60,226	5,01,017	51,61,243
				III.—TOOLS AND PLANT			
				(1). SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS	1,130	3,194	4,322
				(2). PLANTS AND MAINTENANCE	135	32,714	32,879
				(3). TOOLS	2,121	1,722	3,843
				(4). NAVIGATION PLANTS	..	536	536
				(5). CAMP EQUIPMENT	45	29	204
				(6). LIVE STOCK	700	..	70
				(7). OFFICE FURNITURE	1,034	2,177	3,211
				(8). MISCELLANEOUS	49,178	729	45,447
				(9). REPAIRS AND CARRIAGE.	89,034	5,854	94,888
				Total ..	1,40,351	46,706	1,86,000
				IV.—REFUNDS OF REVENUE	0,813	373	10,186
				V.—PROFIT AND LOSS			
				TOTAL ..	20,11,573	9,14,193	1,06,61,066
				Indirect Charges attributable to Revenue Account as per Account No 3.	0,53,397	70,142	7,23,149
				Total Charges ..	1,05,98,180	9,54,335	1,18,52,516
				Balance, Not Revenue ..	2,17,27,414	37,51,081	2,64,82,045
				GRAND TOTAL ..	3,23,25,594	17,38,916	3,70,64,560
Share of Land Revenue collected in the Civil Department.	78,64,632	16,06,404	95,05,036				
Interest on sale proceeds of waste lands benefited.	6,50,460	68,276	7,18,736				
Total ..	85,19,099	17,64,683	1,02,83,782				
TOTAL RECEIPTS ..	3,23,25,594	47,18,000	3,70,64,560				

(a) Includes Rs. 84,894 on account of fees for collection of Revenue.

(b) Excludes Share of accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Jhelum Canal Project.

No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1916-16 ...	78,60,793	Net Revenue realised to end of 1915-16 ...	2,17,27,614
Do. for the year 1916-17 ..		Do. during 1916-17 ..	37,84,631
Total outlay to end of 31st March 1917 ...	1,55,43,447		
Deduct half outlay during 1916-17 ..	—16,597		
Mean Capital at charge ..	1,55,60,044		
Interest at 3.2964 per cent ...	5,12,921		
Total ..	83,63,714		
Balance Revenue after defraying Interest charges ..	1,71,18,331		
Total ..	2,64,82,045	Total ..	2,64,82,045

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

PARTICULARS.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ..	83,000	...	83,000
Leave and Pension Allowances ..	3,06,121	600	3,06,721
Total ..	3,89,121	600	3,89,721
REVENUE—			
Capitalization of abatement of Land Revenue ...	875	..	875
Leave and Pension Allowances ..	6,52,132	70,142	7,22,574
Total ..	6,53,307	70,142	7,23,449
GRAND TOTAL	10,42,428	70,742	11,13,170

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS			Total charges to date, against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate.	Expenditure against open canal sanctions.	Total	Charges to date	Amount of sanctioned Estimate.	Unspent Balance of Estimate.		
				Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES—								
Works ..				1,26,74,493	1,48,95,897	22,21,314	1,26,74,493	
Establishment ..				21,00,858	20,30,280	7,39,402	21,00,858	
Tools and Plant ..				3,62,956	4,29,716	66,769	3,02,886	
Surplus Balances ..				3,77,749	2,00,000	—1,77,749	3,77,749	
Total ..				1,56,06,056	1,84,55,782	28,49,726	1,56,06,056	
Less Receipts on Capital Account ..				62,609	60,000	—2,609	62,609	
Net Total ..				1,55,43,447	1,83,95,782	28,52,336	1,55,43,447	
IRRIGATION CHARGES—								
Capitalized abatement of Land Revenue ..				83,000	1,57,803	74,803	83,000	
Leave and Pension Allowances ..				3,06,721	4,10,348	1,03,622	3,06,721	
Total ..				3,89,721	5,68,200	1,78,485	3,89,721	
GRAND TOTAL ..				1,59,33,166	1,89,63,988	30,30,821	1,59,33,166	

(a). Includes Rs. 2,05,933 actual direct expenditure on Shahpur Imperial Canal.

(b). Includes Rs. 998 on account of indirect expenditure on Shahpur Imperial Canal.

Both the above will be transferred to the debit of this project on completion of the Shahpur Branch of the Lower Jhelum Canal, vide Secretary, P. W. D., Irrigation Branch, Punjab's No. 056-A. 1., dated 7th June 1905.

(c). Revised project estimate sanctioned in Secretary of State's Despatch No. 5, dated 10th February 1905.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Indus Inundation Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT	DIRECT CHARGES.			Cost of construction as now estimated (Construction Estimate closed on 31st March 1904)	Expenditure against closed Estimates.
	Imperial.				
	Previous	1916-17.	Total		
	Rs.	Rs.	Rs.	Rs.	Rs.
1.—WORKS.					
2. MAIN CANAL AND BRANCHES—					
A.—Preliminary Expenses	9,321	..	9,321		
B.—Land	49,157	4,000	53,157		
D.—Regulators	77,205	..	77,205		
E.—Falls and Weirs	34,956	..	34,956		
F.—River and Hill Torrent Works ..	402	..	402		
G.—Bridges	46,971	..	46,971		
H.—Escapes	14,031	..	14,031		
K.—Buildings	1,49,097	..	1,49,097		
L.—Earthwork	13,52,682	..	13,52,682		
O.—Miscellaneous	24,574	14	24,588		
Total ..	17,58,428	4,020	17,62,448		
3. DISTRIBUTARIES—					
A.—Preliminary Expenses	3,987	..	3,987		
B.—Land	38,157	..	38,157		
C.—Works	64,603	8,163	72,766		
L.—Earthwork	1,00,316	80	1,00,400		
O.—Miscellaneous	8,535	..	8,535		
Total ..	3,05,597	8,252	3,13,851		

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Indus Inundation Canals Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated (Construction Estimate closed on 31st March 1904).	Expenditure against closed Estimates.
	Imperial.				
	Previous	1916-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
4. DRAINAGE AND PROTECTIVE WORKS—					
K.—Buildings	1,613	..	1,613		
L.—Earthwork	3,13,076	..	3,13,076		
TOTAL ..	3,14,691	..	3,14,691		
TOTAL I—WORKS ..	24,06,719	12,272	24,20,991	24,16,457	22,87,678
II.—ESTABLISHMENT					
5. DIRECTION AND ACCOUNT	1,11,728	119	1,11,847		
6. EXECUTIVE	2,45,901	44	2,46,537		
7. MEDICAL	507	..	507		
TOTAL ..	1,58,136	163	1,58,300	1,58,300	1,58,300
III.—TOOLS AND PLANT.					
12. MISCELLANEOUS	25,033	39	25,072		
13. REPAIRS AND CARRIAGE .. .. .	..	..	..
TOTAL ..	25,033	39	25,072	25,072	23,421
IV.—SUSPENSE ACCOUNT.					
14. STOCK	14,795	—4,131	10,664		
15. MISCELLANEOUS ADVANCES	14	—120	106		
16. LONDON STORES .. .. .	..	..	..
TOTAL ..	14,809	—4,251	10,558		
GRAND TOTAL ..	29,50,976	8,610	29,59,586	29,00,829	27,46,437
V. Less RECEIPTS ON CAPITAL ACCOUNT	14,616		14,616	14,616	14,616
NET TOTAL ..	28,36,360	8,610	28,44,970	28,86,213	26,31,821
APPORTIONMENT.					
40. IRRIGATION WORKS	21,70,847	8,610	21,79,457		
43. M. W. AND NAVIGATION, IMPERIAL	7,22,513	..	7,22,513		

(a) Share of account excluded from 1912-13.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Indus Inundation Canals Project.

No. 4.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1915-16	19,40,689	Net Revenue realized to end of 1915-16	11,99,822
		Do. during 1916-17.. ..	1,29,708
Total outlay to 31st March 1917	29,01,976	Balance net Interest charges.. ..	7,06,680
Less half outlay during 1916-17	4,308		
Mean capital at charge	28,97,668		
Interest at 3.2904 per cent	95,510		
Total	20,36,208	Total	20,36,208

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1 10-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue	8,307	250	8,657
Leave and Pension Allowances	71,639	79	71,718
Total	79,946	429	80,375
REVENUE—			
Capitalization of abatement of Land Revenue	23,408	2,225	25,633
Leave and Pension Allowances	6,35,134	17,460	6,52,594
	6,58,542	19,685	6,78,227
GRAND TOTAL	7,38,488	20,114	7,58,602

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate	Expenditure against open canal sanctions	Total.	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES—								
Works	6,63,648	16,24,070	22,87,718	1,33,310	1,28,708	—4,601	24,20,988	W 1. No. Date. Rs. 01359 16-9-15 21,848 1025 7-10-15 1,32,653
Establishment	87,204	3,48,134	4,35,338	24,611	24,017	—40	4,58,949	
Tools and Plant	7	22,751	23,421	1,011	1,675	+24	27,078	
Suspense Balance .. ..	..	..	..	60,583	..	—60,583	60,583	
TOTAL	7,51,622	19,94,911	27,46,533	2,19,155	1,54,401	—65,754	29,65,792	
Less Receipts on Capital Account	63,616	..	63,616	..	..	..	63,616	1,54,401
NET TOTAL	6,87,906	19,94,911	26,82,817	2,19,155	1,54,401	—65,754	29,02,176	
INDIRECT CHARGES—								
Capitalized abatement of Land Revenue	57	8,660	8,717	..	..	..	8,657	
Leave and Pension Allowances	19,672	48,789	68,461	3,307	..	—3,307	71,718	
TOTAL	19,729	57,449	77,176	3,307	..	—3,307	80,375	
GRAND TOTAL	7,07,635	20,52,360	27,59,995	2,22,462	1,54,401	—69,061	29,82,351	

IRRIGATION BRANCH.

PUNJAB PROVINCE

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Chenab Canal Project.

No 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17

HEADS OF ACCOUNT.	DIRECT CHARGES			Cost of construction as now estimated
	Imperial			
	Previous	1916 17	Total	
I.—WORKS.				
1. HEAD WORKS—	Rs.	Rs.	Rs.	
A.—Preliminary Expenses	8,284	..	8,284	
B.—Land	87,095	58	88,053	
C.—Works	67,04,510	— 5,440	66,99,070	
K.—Buildings	1,89,587	852	1,90,439	
O.—Miscellaneous	18,598	13,145	31,743	
P.—Maintenance	1,35,343	..	1,35,343	
Q.—Losses of Stock	5,715	1,602	7,317	
TOTAL	71,60,041	10,203	71,60,240	
2. MAIN CANAL AND BRANCHES—				
A.—Preliminary Expenses	70,233	805	77,038	
B.—Land	9,08,171	3,618	9,71,789	
D.—Regulators	6,88,914	10,818	6,99,732	
E.—Falls and Weirs	9,50,027	..	9,50,027	
F. (1)—Other Cross Drainage Works ..	22,60,422	3,533	22,72,955	
G.—Bridges	15,71,431	2,773	15,74,204	
K.—Buildings	8,33,360	15,505	8,48,865	
L.—Earthwork	69,43,275	5,562	69,48,837	
M.—Plantation	39,233	3,398	42,631	
O.—Miscellaneous	66,300	214	66,514	
P.—Maintenance	3,19,783	894	3,20,677	
Q.—Losses of Stock	7,211	4,574	11,785	
TOTAL	1,47,73,960	51,085	1,47,85,054	
3. DISTRIBUTARIES—				
A.—Preliminary Expenses	1,30,008	5,578	1,42,186	
B.—Land	54,1,935	80,325	6,22,260	
C.—Works	13,41,812	1,80,134	15,01,946	
L.—Earthwork	17,21,316	1,10,192	18,31,508	
O.—Miscellaneous	2,16,735	59,155	3,05,040	
P.—Maintenance	14,308	..	14,308	
TOTAL	39,72,764	4,45,384	44,18,148	

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Chenab Canal Project

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES			Cost of construction as now estimated.	
	Imperial.				
	Previous	1916-17.	Total		
	Rs.	Rs.	Rs.		
4 DRAINAGE AND PROTECTIVE WORKS—					
A.—Preliminary Expenses ...	6,174	1,102	7,276		
B.—Land	1,02,118	1,705	1,03,821		
C.—Works	37,481	578	38,059		
L.—Earthwork	9,23,090	1,02,340	10,25,430		
O.—Miscellaneous ...	17,062	03	17,155		
TOTAL ..	10,55,934	1,09,418	11,65,352		
TOTAL I.—WORKS ..	2,69,42,017	4,17,095	2,73,59,112	2,92,05,401	
II.—ESTABLISHMENT.					
5. DIRECTION	10,57,939	31,724	10,89,663		
6. EXECUTIVE	29,06,334	2,11,263	31,17,597		
7. MEDICAL	1,26,478	10,812	1,37,290		
8. SPECIAL SURVEY	62,573	..	62,573		
8½. SPECIAL FIELD SURVEY	110	..	110		
LEAVE AND PENSION ALLOWANCES ..	..	..	..
TOTAL ..	42,57,534	2,53,799	44,87,333	44,41,663	
III. TOOLS AND PLANT.					
1. SURVEYING INSTRUMENTS AND DRAWING MATERIALS.	272	385	657		
2. PLANT AND MACHINERY	8,635	..	8,635		
3. TOOLS	1,323	917	2,240		
4. NAVIGATION PLANT	606	326	932		
5. CAMP EQUIPAGE	28	7	35		
6. LIVE STOCK	00	474	574		
7. OFFICE FURNITURE	975	865	1,840		
8. REPAIRS AND CARRIAGE	1,21,020	3,974	1,25,894		
11 RAILWAY PLANT AND ROLLING STOCK ..	8,55,370	..	8,55,370		
12 MISCELLANEOUS	6,95,465	4,09,480	11,03,945		
TOTAL ..	16,84,094	5,05,444	21,89,538	19,02,424	
IV.—SUSPENSE ACCOUNT.					
14. STOCK	8,07,154	—1,22,165	6,85,049		
15. STOCK PURCHASES	—1,397	957	—440		
15½. STOCK SALES	1,205	—1,140	155		
16. MISCELLANEOUS ADVANCES	4,445	—4,300	155		
18. LONDON STORES .. ..	..	..	..
TOTAL ..	8,11,567	—1,26,608	6,84,959	3,00,000	
GRAND TOTAL ..	3,36,71,812	12,49,644	3,49,21,456	3,59,49,683	
V.—LESS RECEIPTS ON CAPITAL ACCOUNT	47,319	5,12,746	5,60,065	5,43,100	
NET TOTAL ..	3,36,24,503	1,37,134	3,47,01,637	3,53,06,583	
APPORTIONMENT.					
49. IRRIGATION WORKS	3,35,16,432	7,37,134	3,42,53,566		
43 M. W. AND NAVIGATION	1,07,871	..	1,07,871		

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Chenab Canal Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates	22,04,982	22,85,016	44,90,027	(I A)—EXTENSIONS AND IMPROVEMENTS.			
				(1)—HEAD WORKS ...	16,834	22,340	39,174
Sales of water	885	1,152	1,537	(2)—MAIN CANAL AND BRANCHES	2,50,571	1,844	2,52,415
				(3)—DISTRIBUTARIES ...	...	1,610	1,610
Water supply of towns ...	1,814	...	1,814	TOTAL I.A. ...	2,67,405	25,803	2,93,208
				(I B)—MAINTENANCE AND REPAIRS.			
Receipts from Plantations ...	1,356	424	1,774	(1)—HEAD WORKS ...	1,80,838	46,885	2,27,718
				(2)—MAIN CANAL & BRANCHES	5,07,088	1,91,737	6,08,817
Receipts from other Canal produce.	511	...	511	(3)—DISTRIBUTARIES ...	8,20,702	2,05,574	5,35,366
				(4)—DRAINAGE WORKS ...	72,088	20,958	93,046
				TOTAL I.B. ...	19,00,093	4,06,154	15,55,847
				(I C)—COMPENSATION...	37,739	4,500	42,209
				(II)—ESTABLISHMENT.	(b)		
				(5)—DIRECTION AND ACCOUNT	53,930	39,350	84,280
Rent of Buildings	17,096	6,102	23,768	(6)—EXECUTIVE ESTABLISHMENT.	2,11,838	60,575	2,92,413
				(7A)—REVENUE DO. ...	3,79,377	1,84,714	5,64,091
				TOTAL ...	6,45,145	2,95,639	9,40,784
				(III)—TOOLS AND PLANT.			
Fines	2,640	920	3,560	(1)—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS.	42	...	42
				(2)—PLANT AND MACHINERY	3,573	—1,511	1,982
				(12)—MISCELLANEOUS ...	11,870	7,110	18,080
Miscellaneous and other Receipts	41,571	15,290	56,870	(13)—REPAIRS AND CARRIAGE	0,811		6,811
				TOTAL ...	22,290	5,519	27,815
				(IV)—REFUNDS OF REVENUE.	2,075	260	2,344
Total	22,71,208	23,08,047	45,80,215	TOTAL ...	2,065,363	7,06,944	28,02,297
Interest on sale-proceeds of waste lands bonafided.	93,880	50,630	1,25,625	Indirect Charges debitable to Revenue Account as per Account No. 5.	00,320	1,31,909	41,589
Share of land revenue ...	1,00,860	1,95,233	3,05,089	TOTAL CHARGES ...	21,55,073	8,38,533	20,94,200
Collected in the Civil Department	2,68,742	2,51,872	5,23,014	Boltona, Net Revenue ¹ ...	3,84,337	17,25,286	21,09,623
TOTAL RECEIPTS	25,40,010	25,03,810	51,03,820	GRAND TOTAL ...	25,40,010	25,03,810	51,03,820

(a).—Includes Rs. 60,537 on account of loss of collection of revenue.

(b).—Excluding Share of Accounts from 1912-13.

IRRIGATION BRANCH.

OFFICE OF ACCOUNTANT-GENERAL.

PUNJAB PROVINCE.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Chenab Canal Project.

No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1915-10	71,88,668	Not revenue realized, to end of 1915-10	3,84,337
Do. for the year 1916-17		Do. during 1916-17	17,25,280
Total outlay to end of 31-3-17 = 3,43,51,637		Balance, net interest charges	61,99,503
Less half outlay during 1916-17 = 3,68,567			
Mean Capital at charge = 3,30,02,070			
Interest at 3.2964 per cent	11,20,548		
Total ..	83,09,216	Total ..	83,09,216

No. 5. ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

PARTICULARS.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue	2,91,725	67,923	3,59,660
Leave and Pension Allowances	5,85,367	35,572	6,20,897
Total ..	8,77,090	1,03,467	9,80,547
REVENUE—			
Capitalization of abatement of Land Revenue .. .. .	..	200	200
Leave and Pension Allowances	00,320	41,386	1,31,709
Total ..	80,320	41,586	1,31,909

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CURRENT SANCTIONS			Total charges to date against old and current sanctions.	REMARKS.
	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.		
	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES—					
Works	2,75,59,192	2,92,05,491 ^(a)	16,46,299	2,75,59,192	
Establishment	44,87,333	44,11,668 ^(b)	—45,666	44,87,333	
Tools and Plant	21,00,148	19,02,421 ^(c)	—2,67,724	21,00,148	
Suspense Balances	6,44,520	3,60,000	—3,84,822	6,44,520	
Total ..	3,47,91,193	3,55,79,580	9,25,081	3,47,91,193	
Less Receipts on Capital Account	5,69,865	5,13,000	—10,895	5,69,865	
Not Total ..	3,42,21,328	3,50,66,580	9,14,186	3,42,21,328	
INDIRECT CHARGES—					
Capitalized abatement of Land Revenue	3,69,850	5,16,668	1,57,018	3,69,850	
Leave and Pension Allowances	5,20,897	7,08,772	87,576	6,20,897	
Total ..	9,90,747	12,25,440	2,44,594	9,90,747	
GRAND TOTAL ..	3,52,12,075	3,62,92,020	11,58,780	3,52,12,075	

(a)—The following transfers of provision have been made

I.—Rs. 8,25,000—transferred from 49—Capital I—Works, Upper Chenab Canal, to 40—Capital I—Works, Upper Jhelum Canal, vide Government of India letter No. 676 I, dated 5th October 1918

II.—Rs. 3,000 } Transferred from 19—Capital I—Works to III.—Tools and Plant, Upper Chenab Canal Project, vide Irrigation Branch Secretary's No. 716 W. I., dated 15th February 1916, 0250 W. I., dated 12th June 1916 and 712 W. I., dated 10th February 1917.

(b)—The transfer of Rs. 1,74,494 from 49—Capital, III.—Tools and Plant to II—Establishment, Upper Chenab Canal Project as per Secretary's No. 510 W. I., dated 2nd February 1911 was erroneously accounted for against the Revised Estimate, hence set right.

(c)—Vide (c) II above.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Bari Doab Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES—			Cost of construction as now estimated	
	Imperial.				
	Previous.	1910-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
L—WORKS.					
1. HEAD WORKS—					
A.—Preliminary Expenses	13,800	...	13,800		
B.—Land	2,22,160	—20	2,22,161		
C.—Works	45,76,038	1,63,884	47,39,922		
K.—Buildings	1,33,551	5,163	1,38,714		
O.—Miscellaneous	21,701	101	21,802		
P.—Maintenance	78,796	..	78,796		
Q.—Losses on Stock ... ..	..	1,780	1,780		
TOTAL	50,46,172	1,79,906	52,17,077		
2. MAIN CANAL AND BRANCHES—					
A.—Preliminary Expenses	1,12,598	+ 34,381	1,53,050		
B.—Land	47,082	—30,200	10,882		
D.—Regulators	1,27,792	..	1,27,792		
E.—Falls and Weirs	4,15,853	..	4,15,853		
F.—River and Hill Torrent Works	671	..	671		
F. (1).—Other Cross Drainage Works	4,54,143	500	4,55,041		
G.—Bridges	4,72,780	—2,066	4,70,114		
H.—Escapes	62,352	620	62,972		
K.—Buildings	10,11,616	38,874	10,50,510		
L.—Earthwork	83,85,422	349	83,85,771		
M.—Plantations	1,15,075	12,117	1,28,792		
O.—Miscellaneous	70,805	3,110	82,084		
P.—Maintenance	2,31,718	5,328	2,37,046		
Q.—Losses on Stock	405	..	405		
.. .. TOTAL	64,76,303	63,498	65,38,801		
3. DISTRIBUTARIES—					
A.—Preliminary Expenses	90,314	5,125	1,01,430		
B.—Land	1,31,676	—932	1,30,744		
C.—Works	11,95,810	55,115	12,50,925		
L.—Earthwork	13,05,114	64,580	14,20,703		
O.—Miscellaneous	11,50,339	1,09,564	13,25,003		
P.—Maintenance	32,108	2,078	34,187		
TOTAL	39,77,362	2,94,630	42,72,001		
4. DRAINAGE AND PROTECTIVE WORKS.					
A.—Preliminary	5,739	1,846	7,581		
B.—Land	409	0,082	0,491		
C.—Works	720	..	720		
L.—Earthwork	8,541	24,241	32,782		
O.—Miscellaneous	9,053	2,350	11,410		
TOTAL	24,469	24,518	58,087		
TOTAL I.—WORKS.	1,55,23,300	5,03,500	1,60,26,800	1,00,80,298	

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Bari Doab Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated.
	Imperial.			
	Previous.	1916-17.	Total.	
	Rs.	Rs.	Rs.	Rs.
II—ESTABLISHMENT.				
5. DIRECTION AND ACCOUNTS ^(a)	(a) 5,30,561	38,608	5,69,172	
6. EXECUTIVE	20,00,153	2,25,087	22,25,240	
7. MEDICAL	92,578	12,275	1,04,853	
8. SPECIAL SURVEY	7,840	"	7,840	
TOTAL	27,30,133	2,76,870	30,07,003	32,49,734
III—TOOLS AND PLANT				
1. SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS.	871	1,123	1,994	
2. PLANT AND MACHINERY	9,784	1,336	11,070	
3. TOOLS	427	1,320	1,747	
4. NAVIGATION PLANT	4,181	463	4,644	
5. CAMP EQUIPAGES	680	760	1,440	
6. LIVE STOCK	"	299	299	
7. OFFICE FURNITURE	2,153	1,546	3,709	
8. REPAIRS AND CARRIAGE	1,03,924	11,709	1,15,633	
9. MISCELLANEOUS	6,07,564	4,03,123	10,10,687	
10. RAILWAY PLANT AND ROLLING STOCK ..	7,83,454	"	7,83,454	
TOTAL	15,12,958	4,21,770	19,34,727	20,15,908
IV.—SUSPENSE ACCOUNT.				
14. STOCK	9,63,081	—57,320	9,05,281	
15. STOCK PURCHASES	—2,839	—1,107	—4,036	
15. (a) STOCK SALES	713	—361	352	
16. MISCELLANEOUS ADVANCES	1,515	—1,085	+430	
17. LONDON INVOICES	—1	"	—1	
18. LONDON STORES	"	"	"	
TOTAL	9,62,469	—60,403	9,02,006	3,00,000
GRAND TOTAL	2,07,28,890	12,01,740	2,19,30,632	2,16,51,940
V.—Less RECEIPTS ON CAPITAL ACCOUNT	61,032	4,48,497	5,10,360	2,82,000
NET TOTAL	2,06,66,904	7,53,300	2,14,20,273	2,13,69,940
APPORTIONMENT.				
49.—IRRIGATION WORKS	2,04,09,443	7,53,300	2,12,52,752	
48.—M. W. AND NAVIGATION, IMPERIAL ..	1,07,321	"	1,07,521	

(a) Excludes share of account from 1912-13.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Bari Doab Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

Receipts.	IMPERIAL.			Charges.	IMPERIAL.		
	Previous	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates ...	9,40,156	7,31,730	16,80,886	(I.A)—EXTENSIONS AND IMPROVEMENTS.			
				1.—HEAD WORKS ...	2,137	2,669	4,806
				2.—MAIN CANAL AND BRANCHES	2,717	1,471	4,188
				3.—DISTRIBUTARIES ...	7,73	4,821	12,159
				4.—DRAINAGE AND PROTECTIVE WORKS.	...	...	..
				TOTAL I. A ...	12,102	8,961	21,153
Es'ces of water ..	1,039	11,410	16,510	(I.B)—MAINTENANCE AND REPAIRS.			
				1.—HEAD WORKS ...	89,717	33,622	1,23,339
				2.—MAIN CANAL AND BRANCHES.	2,71,280	1,69,228	4,50,508
				3.—DI TRIBUTARIES ..	3,18,207	1,65,077	4,84,274
				4.—DRAINAGE WORKS ..	7,565	813	8,364
				TOTAL I.B. ..	6,86,859	3,59,646	10,46,505
Receipts from Plantations ...	3,591	3,075	6,666	(I.C)—COMPENSATION.			
" other Canal produce	335	...	335	(II)—ESTABLISHMENT			
				1.—DIRECTION AND ACCOUNTS.	(a) 37,502	20,594	67,096
Rent of buildings ...	1	6,031	6,031	6.—EXECUTIVE ESTABLISHMENT.	1,73,132	00,031	1,73,163
				(7A)—REVENUE Do. ...	1,09,881	1,31,819	3,31,700
				TOTAL ...	3,59,515	2,21,444	6,71,959
Fines ...	1,001	407	1,471	III.—TOOLS AND PLANT.			
				1.—SURVEYING INSTRUMENTS AND DRAWING MATERIALS	...	..	..
				2.—PLANT AND MACHINERY ...	...	...	...
				3.—TOOLS ...	...	...	...
				4.—NAVIGATION PLANT ..	...	..	..
				5.—CAMP EQUIPAGES ...	...	...	...
				6.—LIVE STOCK ...	...	..	...
Miscellaneous and other Receipts,	13,280	3,552	16,832	7.—OFFICE FURNITURE ..	...	...	6
				8.—REPAIRS AND CARRIAGE MISCELLANEOUS.	1,970	5,287	15,276
				TOTAL ...	9,970	5,303	28 2
				IV.—REFUNDS OF REVENUE	062	237	809
				V.—PROFIT AND LOSS.	...	...	...
				TOTAL ...	10,00,207	5,05,691	16,55,798
Total ...	9,60,723	7,02,206	17,25,029	Indirect Charges debitable to Revenue Account as per Account No. 5.	40,072	31,002	80,074
Share of Land Revenue collected in the Civil Department.	...	3	3,819	TOTAL CHARGES ...	11,09,279	6,26,593	17,32,575
Interest on sale proceeds of waste land benefited.	1,68,114	1,09	3,07,219	Balance, Not Revenue ..	25,568	3,38,537	3,64,005
TOTAL RECEIPTS ...	11,34,837	8,05,130	20,09,967	GRAND TOTAL ...	11,34,837	9,05,130	20,09,967

(a). Excludes share of accounts since 1912-13.

(b). Includes Rs. 21,105 on account of Lambardars' fees for 1910-17.

IRRIGATION BRANCH.

OFFICE OF ACCOUNTANT-GENERAL.

PUNJAB PROVINCE.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Bari Doab Canal Project.

No. 4—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Rs.		Rs.
Total Interest charges to end of 1915-16 ..	32,06,067	Net Revenue realized to end of 1915-16 ..	25,558
Do. for the year 1916-17 ..		Do. during 1916-17 ..	8,38,637
Total outlay to 31st March 1917 ..	Rs. 2,14,20,273	Balance Interest net charges ...	35,36,654
Less half outlay during 1916-17 ..	3,76,655		
Mean capital at charge ..	2,10,43,618		
Interest at 3 296½ per cent ..	6,93,682		
Total ..	39,00,649	Total ..	30,00,049

No. 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

PARTICULARS.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ..	43,750	200	43,950
Leave and Pension Allowances ..	3,71,278	38,762	4,10,040
Total ..	4,15,028	38,962	4,53,990
REVENUE—			
Leave and Pension Allowances ..	49,072	31,002	80,074
Total ..	49,072	31,002	80,074

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.		
	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES—					
Works ..	1,60,86,860	1,60,86,208	--568	1,60,86,860	Revised estimate sanctioned in Secretary of State's Despatch No. 5 P. W., dated 17th February 1911. Rs. 3,00,000 transferred from I—Works to III—Tools and Plants as per Secretary's Irrigation Branch letter No. 6910 W 1 dated 5th August 1916.
Establishment ..	30,07,003	32,19,731	2,12,731	30,07,003	
Tools and Plant ..	19,34,767	20,15,908	81,141	19,34,767	
Suspense Balances ..	0,02,070	3,00,000	--6,02,006	9,02,000	
Total ..	2,19,30,612	2,19,51,946	--2,73,702	2,19,30,612	
Less Receipts on Capital Account ..	5,10,369	2,82,000	--2,28,369	5,10,369	
Net Total ..	2,14,20,273	2,13,69,946	--50,333	2,14,20,273	
INDIRECT CHARGES—					
Capitalized abatement of Land Revenue ..	43,950	1,47,500	1,03,550	43,950	
Leave and Pension Allowances ..	4,10,040	5,10,062	100,922	4,10,040	
Total ..	4,53,990	6,58,462	2,04,472	4,53,990	
GRAND TOTAL ..	2,18,74,263	2,20,28,408	1,54,139	2,18,74,263	

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Jhelum Canal Project.

No. 2—CAPITAL ACCOUNTS FOR AND TO END OF 1916-17.

HEADS OF ACCOUNTS.					DIRECT CHARGES.			Cost of construction as now estimated.
					Imperial.			
					Previous.	1916-17	Total.	
					Rs.	Rs.	Rs.	Rs.
I.—WORKS,								
1.—HEAD WORKS—								
A.—Preliminary Expenses.. .. .					7,349	..	7,349	
B.—Land					11,020	..	11,020	
C.—Works					1,818	..	1,818	
K.—Buildings					1,80,401	1,012	1,87,477	
O.—Miscellaneous					38,021	..	38,021	
P.—Maintenance					14,972	..	14,972	
TOTAL					2,69,614	1,012	2,60,636	
2.—MAIN CANAL AND BRANCHES—								
A.—Preliminary Expenses.. .. .					1,11,005	1,100	1,12,168	
B.—Land					9,21,556	10,667	9,32,227	
D.—Regulators					33,18,102	—10,060	32,09,537	
E.—Dykes and Weirs					1,62,235	3,817	1,66,952	
F.—River and Hill Torrent Works					1,41,00,978	2,29,865	1,33,30,813	
G.—Bridges					10,20,501	13,200	10,33,800	
H.—Escapes					2,59,807	370	2,50,177	
K.—Buildings					6,16,090	71,246	7,17,320	
L.—Earthwork					1,05,20,894	1,49,016	1,06,80,809	
M.—Plantations					51,750	87	51,817	
O.—Miscellaneous					69,076	1,892	61,970	
P.—Maintenance					3,07,842	4,217	4,02,089	
Q.—Losses on Stock					5,160	—929	4,537	
TOTAL					3,03,07,518	4,65,887	3,10,63,433	
3.—DISTRIBUTARIES—								
A.—Preliminary Expenses.. .. .					28,010	14,622	43,132	
B.—Land					1,37,582	1,41,011	2,79,193	
C.—Works					2,77,982	2,03,692	4,86,604	
L.—Earthwork					2,66,373	2,81,010	5,48,272	
O.—Miscellaneous					62,038	2,79,130	3,31,168	
TOTAL					7,01,682	7,20,761	16,83,441	

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Jhelum Canal Project.

No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.						DIRECT CHARGES.			Cost of construction as now estimated.
						Imperial.			
						Previous	1916-17.	Total	
						Rs.	Rs.	Rs.	Rs.
I. DRAINAGE AND PROTECTIVE WORKS—									
A.—Preliminary Expenses						0,958	..	0,958	
O.—Miscellaneous						127	..	127	
TOTAL						7,085	..	7,085	
TOTAL I.—WORKS						8,16,23,062	13,03,663	2,30,19,625	3,53,54,865
II.—ESTABLISHMENT.									
5. DIRECTION AND ACCOUNT (a)						8,99,552	55,800	9,55,448	
C. EXECUTIVE						33,81,359	2,17,334	36,28,803	
7. MEDICAL						1,22,655	14,022	1,37,677	
TOTAL						44,03,526	3,18,322	47,21,848	40,02,371
III.—TOOLS AND PLANT.									
1. SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS						248	442	690	
2. PLANT AND MACHINERY						28,61,160	533	28,61,692	
3. TOOLS						—2,438	2,400	—38	
4. NAVIGATION PLANT						323	1,403	1,726	
5. CAMP EQUIPAGE						465	103	568	
7. OFFICE FURNITURE						3,568	2,555	6,123	
8. REPAIRS AND CARRIAGE						1,45,539	5,076	1,50,616	
MISCELLANEOUS						14,70,175	1,00,326	15,70,401	
TOTAL						41,70,920	1,12,738	45,91,767	46,59,540
IV.—SUSPENSE ACCOUNT.									
14. STOCK						11,74,027	—1,16,97	10,57,948	
15. STOCK PURCHASES						—10,187	—12,024	—28,211	
16a. „ SALES						631	—480	151	
16. MISCELLANEOUS ADVANCES						8,500	—3,100	5,310	
17. LONDON INVOICES .. .. .						..	..	..
18. LONDON STORES .. .. .						..	..	..
TOTAL						11,67,874	—1,32,673	10,35,201	6,00,000
GRAND TOTAL						4,16,70,491	16,02,060	4,33,68,541	4,52,20,706
V.—LESS RECEIPTS ON CAPITAL ACCOUNT						65,195	2,61,762	3,56,957	11,53,484
NET TOTAL						4,15,81,296	14,30,288	4,30,11,584	4,40,65,282
APPORTIONMENT.									
40. IRRIGATION WORKS						4,15,14,345	14,30,288	4,20,44,633	
43. MINOR WORKS AND NAVIGATION, IMPERIAL.. .. .						66,948	..	66,948	

(a) Excludes share of account commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Jhelum Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Water rates .. ..	..	74,703	74,703	(I. A.)—EXTENSIONS AND IMPROVEMENTS.			
				(2.)—MAIN CANAL AND BRANCHES.	20,225	44,390	64,624
				TOTAL I. A. ..	20,225	44,390	64,624
Sales of water .. ..	..	291	291	(I. B.)—MAINTENANCE AND REPAIRS.			
				(1.)—HEAD WORKS ..	10,850	14,851	25,511
				(2.)—MAIN CANAL AND BRANCHES.	2,39,078	3,72,298	6,11,973
				(3.)—DISTRIBUTARIES ..	..	31,635	31,635
Receipts from plantations ..	..	2	2	TOTAL I. B. ..	2,50,338	4,18,781	6,69,119
				II.—ESTABLISHMENT.			
				(5.)—DIRECTION AND ACCOUNTS.	5,446	22,313	(b) 30,759
Rents of Buildings ..	3,120	5,256	8,376	(6.)—EXECUTIVE ESTABLISHMENT.	41,254	76,320	1,20,574
				(7 A.)—REVENUE ESTABLISHMENT.	6,634	51,267	57,891
				TOTAL ..	50,334	1,49,890	2,09,224
Fines .. ..	..	238	238	(III.)—TOOLS AND PLANT.			
				(3.)—TOOLS ..	—29	..	—29
				(7.)—OFFICE FURNITURE	71	—1	70
Miscellaneous & other receipts.	3,144	3,954	6,108	(8.)—DETAILS AND CARRIAGE.	..	7	7
				MISCELLANEOUS ..	3,904	6,734	10,038
				TOTAL ..	3,946	6,740	10,686
				IV. REFUNDS OF REVENUE.			
					36	5	35
				TOTAL ..	3,33,375	6,19,815	9,53,688
Total ..	6,261	83,036	89,000	Indirect Charges debitable to Revenue Account as per Account No. 5.	8,397	20,086	28,292
				TOTAL CHARGES ..	3,42,180	6,40,890	9,82,930
				Balance, Not Revenue ..	—3,35,910	—5,87,104	—8,98,080
TOTAL RECEIPTS ..	6,261	83,036	89,000	GRAND TOTAL ..	6,261	83,036	89,000

(a). Includes Rs. 1,887 on account of fees for collection of Revenue.

(b). Excludes share of accounts.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Jhelum Canal Project.

No. 4—INTEREST ACCOUNT FOR AND TO END OF 1910-17.

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1915-16 ..	71,29,183	Not revenue realized during 1916-17 ..	—5,67,104
Do. for the year 1916-17 ..		Balance not Interest charges ..	90,80,607
Total outlay to 31st March 1917 ...	4,30,11,554		
Less half outlay during 1916-17 ...	7,16,144		
Mean capital at charge ...	4,22,95,410		
Interest at 3-2904 per cent ..	13,94,260		
Total ..	85,23,443		85,23,443

No. 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ..	1,68,326	13,975	1,82,300
Leave and Pension Allowances ..	6,11,495	44,565	6,56,063
Total ..	7,79,823	58,540	8,38,363
REVENUE—			
Capitalization of abatement of Land Revenue ..	..	..	..
Leave and Pension Allowances ..	8,307	20,985	29,292
Total ..	8,307	20,985	29,292
GRAND TOTAL ..	7,88,130	79,525	8,67,655

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.		
	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES—					
Works ..	3,30,19,625	3,53,58,855	23,39,230	3,30,19,625	Changes in figures of sanctioned estimates for I—Works and III—Tools and Plant as compared with the sanctions shown in the last account are due to the transfer of Rs. 825,000 from the head I Works of the Upper Chenab Canal to that of Upper Jhelum Canal, vide Government of India Public Works Department's letter No. 667 CI, dated 8th October 1916 and to the transfer of Rs. 14,000 and 51,000 from I—Works to III—Tools and Plant of Upper Jhelum Canal, vide Government Punjab Public Works Department, Irrigation Branch's Letters Nos. 1201 W. I. dated 15-3-17, 1616 W. I. dated 30-3-17, and 1598, dated 8-4-16.
Establishment ..	47,21,948	46,02,371	—1,19,577	47,21,948	
Tools and Plant ..	45,91,707	40,59,510	67,773	45,91,707	
Suspense Balances ..	10,35,201	6,00,000	—4,35,201	10,35,201	
Total ..	4,33,68,511	4,32,20,766	18,52,225	4,33,68,511	
Less Receipts on Capital Account.	3,56,757	11,56,484	7,95,627	3,56,967	
Not Total ..	4,30,11,754	4,40,65,282	10,33,001	4,30,11,754	
INDIRECT CHARGES—					
Capitalized abatement of Land Revenue.	1,82,300	1,10,945	—71,367	1,82,300	
Leave and Pension Allowances.	6,56,063	9,45,332	2,89,250	6,56,063	
Total ..	8,38,303	10,56,277	2,17,914	8,38,303	
GRAND TOTAL ..	4,38,49,947	4,51,21,559	12,71,612	4,38,49,947	

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Shahpur Canal Project—Imperial.

No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES			Cost of construction as now estimated (Construction Estimate closed on 31st March 1904).	Expenditure against closed Estimates.
	Imperial.				
	Previous.	1916-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
I.—WORKS.					
2.—MAIN CANAL AND BRANCHES—					
B.—Land	3,028	..	3,028		
D.—Regulator	13,187	..	13,187		
G.—Bridges	20,522	..	20,522		
L.—Earthwork	80,974	..	80,974		
TOTAL ..	1,26,711	..	1,26,711		
3.—DISTRICTARIES—					
H.—Land	8,210	..	8,210		
C.—Works	18,561	..	18,561		
E.—Earthwork	21,600	..	21,600		
TOTAL ..	48,340	..	48,340		
TOTAL I.—WORKS ..	1,75,060	..	1,75,060	1,75,060	1,75,060
II.—ESTABLISHMENT.					
5. DIRECTION	7,518	..	7,518		
6. EXECUTIVE	22,712	..	22,712		
TOTAL ..	30,260	..	30,260	30,260	30,260
III.—TOOLS AND PLANT.					
12. MISCELLANEOUS	588	..	588		
13. REPAIRS AND CARRIAGE	25	..	25		
TOTAL ..	613	..	613	613	613
GRAND TOTAL ..	2,05,933	..	2,05,933	2,05,933	2,05,933
APPORTIONMENT.					
49 IRRIGATION WORKS	2,05,933	..	2,05,933	2,05,933	2,05,933

Note.—Capital and Revenue accounts of these Canals will continue to be prepared separately until the Shahpur Branch of the Lower Jhelum Canal has been constructed and opened for Irrigation, vide Secretary to Govt., Punjab, P. W. D. Irrigation Branch letter No. 986 A. I., dated 7-6-05.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Shahpur Canal Project—Imperial.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	(I. A.)—EXTENSIONS AND IMPROVEMENTS.	Rs.	Rs.	Rs.
Occupiers' rates ..	21,90,534	80,315	22,70,849	2.—MAIN CANAL AND BRANCHES	82,238	..	82,238
				3.—DISTRIBUTARIES	14,623	..	14,623
Sales of water ..	1,309	0	1,315	TOTAL I. A.	96,861	..	96,861
Receipts from Plantations ...	16,576	25	16,601	(I. B.)—MAINTENANCE AND REPAIRS.			
				2.—MAIN CANAL AND BRANCHES	6,13,780	15,601	6,29,380
Receipts from other Canal produce.	3,856	..	3,856	3.—DISTRIBUTARIES	1,22,287	3,338	1,25,625
Rent of Buildings ..	1,368	..	1,368	TOTAL I. B.	7,36,067	18,939	7,55,016
				(I. C.)—COMPENSATION ..	553	..	553
Fines ..	1,866	..	1,866	(II.)—ESTABLISHMENT.			
Miscellaneous and other Receipts.	1,710	..	1,710	5.—DIRECTION AND ACCOUNT	(b) 73,399	6,731	79,720
				6.—EXECUTIVE ESTABLISHMENT			
				7.—MEDICAL Do. ...	4,71,006	(a)	4,90,413
				7A.—REVENUE Do. ..			
				7B.—NAVIGATION Do. ..			
				TOTAL	5,46,395	21,768	5,70,163
Total ...	22,23,248	80,346	23,03,594	III.—TOOLS AND PLANT.			
				12.—MISCELLANEOUS	3,109	..	3,109
				13.—REPAIRS AND CARRIAGE ..	2,012	..	2,012
				TOTAL	5,121	..	5,121
Share of Land Revenue collected in the Civil Department.	3,42,322	34,672	3,76,994	IV.—REFUNDS OF REVENUE	1,233	..	1,233
				TOTAL	13,86,239	43,707	14,29,946
				Indirect Charges debitable to Revenue Account as per Account No. 5.	77,826	3,408	81,294
Total ...	3,42,322	34,672	3,76,994	TOTAL CHARGES	14,63,965	47,176	15,10,240
				Balance, Not Revenue	11,02,506	67,813	11,70,348
TOTAL RECEIPTS	25,65,570	1,16,018	26,80,588	GRAND TOTAL	25,65,570	1,15,018	26,80,588

(a). Includes Rs. 2,247 on accounts of fees for collection of revenue.

(b). Excludes share of accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Shahpur Canal Project—Imperial.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue	5,175	..	5,175
Leave and Pension Allowances	1,313	..	1,313
Total	6,488	..	6,488
REVENUE—			
Capitalization of abatement of Land Revenue	944	..	944
Leave and Pension Allowances	76,852	3,408	80,260
Total	77,796	3,408	81,204
GRAND TOTAL	84,284	3,408	87,692

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS.				REMARKS.
	Expenditure against Construction Estimate.	Expenditure against open canal sanctions	Total.	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.	Total charges to date against old and current sanctions.	
	Rs.	Rr.	Rr.	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES.								
Works ..	1,75,000	..	1,75,000	..	..	..	1,75,000	
Establishment ..	30,260	..	30,260	..	..	..	30,260	
Tools and Plants ..	613	..	613	..	..	..	613	
Total ..	2,05,873	..	2,05,873	..	..	..	2,05,873	
Less Receipts on Capital Account. ..	..	..	..	..	..	..	..
Net Total ..	2,05,873	..	2,05,873	..	..	..	2,05,873	
INDIRECT CHARGES—								
Capitalized abatement of Land Revenue.	5,038	..	5,038	..	..	..	5,038	
Leave and Pension Allowances.	4,343	..	4,343	..	..	..	4,343	
Total ..	9,381	..	9,381	..	..	..	9,381	
GRAND TOTAL	2,15,254	..	2,15,254	..	..	..	2,15,254	

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ghaggar Canal Project.

No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.								
	Imperial.			Contribution.			Total.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1.—WORKS.									
1. HEAD WORKS—									
B.—Land ..	432	..	432	268	..	268	720	..	720
C.—Works ..	50,817	..	50,817	30,878	..	30,878	09,695	..	09,695
K.—Buildings ..	2,186	..	2,186	1,454	..	1,454	3,614	..	3,614
TOTAL ..	62,435	..	62,435	41,604	..	41,604	1,01,050	..	1,01,050
2. MAIN CANAL AND BRANCHES									
A.—Preliminary Expenses	7,560	..	7,560	5,010	..	5,010	12,615	..	12,615
B.—Land ..	8,750	..	8,750	8,291	..	8,291	17,044	..	17,044
D.—Regulators ..	10,652	..	10,652	8,431	..	8,431	28,110	..	28,110
E.—Falls and Weirs ..	1,861	..	1,861	5,019	..	5,019	6,910	..	6,910
G.—Bridges ..	24,070	..	24,070	27,690	..	27,690	51,775	..	51,775
H.—Escapes ..	13,185	..	13,185	5,051	..	5,051	18,839	..	18,839
K.—Buildings ..	6,880	..	6,880	1,387	..	1,387	21,271	..	21,271
L.—Earthwork ..	77,205	..	77,205	1,10,100	..	1,10,100	1,97,314	..	1,97,314
O.—Miscellaneous ..	1,837	..	1,837	2,588	..	2,588	4,425	..	4,425
TOTAL ..	1,60,057	..	1,60,057	1,85,255	..	1,85,255	3,48,312	..	3,48,312
3. DISTRIBUTARIES—									
A.—Preliminary Expenses	403	..	403	..	..	..	403	..	403
B.—Land ..	3,933	..	3,933	..	..	..	3,933	..	3,933
C.—Works ..	17,995	..	17,995	..	..	..	17,995	..	17,995
L.—Earthwork ..	20,210	..	20,210	..	..	..	20,210	..	20,210
O.—Miscellaneous ..	14,783	..	14,783	8,745	..	8,745	23,528	..	23,528
TOTAL ..	60,324	..	60,324	8,745	..	8,745	75,069	..	75,069

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ghaggar Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17

HEADS OF ACCOUNT.	DIRECT CHARGES.									Cost of construction as now estimated (Construction Estimate closed on 31st March 1905.)	Expenditure against closed Estimates.
	Imperial.			Contribution.			Total.				
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
I.—DRAINAGE AND PROTECTIVE WORKS											
L—Earthwork	5,801	...	5,801	...	...	...	5,801	...	5,801	..	...
TOTAL	5,801	...	5,801	...	..	..	5,801	...	5,801	..	...
TOTAL I.—WORKS	2,91,617	...	2,91,617	2,38,624	...	2,38,624	7,33,241	..	5,3		
II.—ESTABLISHMENT.											
5.—OFFICE AND ACCOUNT	12,614	...	(a) 12,614	8,453	..	8,453	22,067	...	21		
6.—EXECUTIVE	43,628	...	42,628	30,391	..	30,391	74,020	...	7		
7.—MEDICAL... ..	5,558	...	5,558	...	..	..	5,558	..	1		
LEAVE AND PENSION ALLOWANCES ..	...	...	...	5,430	...	5,430	5,439	..	1		
TOTAL	62,707	...	62,707	41,254	...	41,254	1,07,081	..	10		
III.—TOOLS AND PLANT											
12.—MISCELLANEOUS	7,923	...	7,923	2,534	...	2,534	10,457	..	11		
TOTAL	7,923	...	7,923	2,534	...	2,534	10,457	..	11		
GRAND TOTAL	3,66,337	...	3,66,337	2,85,442	..	2,85,442	6,50,779	..	6,61		
V.—LESS RECEIPTS ON CAPITAL ACCOUNT.											
Net Total	3,66,337	...	3,66,337	2,85,442	..	2,85,442	6,50,779	..	6,50,779	6,50,779	6,50,779
APPORTIONMENT.											
43.—M. W. AND NAVIGATION, IMPERIAL	3,66,337	...	3,66,337	2,85,442	...	2,85,442	6,50,779	..	6,50,779	..	..

(a). Share of Accounts excluded under Imperial from 1912-13.

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ghaggar Canal Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS	IMPERIAL			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Occupier's rates ..	1,17,405	21,847	1,39,252	..	..	..	1,17,405	21,847	1,39,252
Receipts from Plantations ..	2	..	2	2	..	2	4	..	4
Receipts from other Canal produce.	..	..	..	1	..	1	1	..	1
Rent of Buildings ..	232	..	232	145	..	145	380	..	380
Fines ..	260	..	260	70	..	70	330	..	330
Miscellaneous and other Receipts.	181	3	184	120	..	120	301	3	304
Total ..	1,18,170	21,850	1,40,020	341	..	341	1,18,511	21,850	1,40,361
TOTAL RECEIPTS ..	1,18,170	21,850	1,40,020	341	..	341	1,18,511	21,850	1,40,361

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ghaggar Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

CHARGES.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous	1916-17.	TOTAL	Previous	1916-17.	TOTAL	Previous.	1916-17.	Total
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(I A)—EXTENSIONS AND IMPROVEMENTS.									
(1).—HEAD WORKS ..	9,088	321	10,002	6,115	214	5,021	15,103	535	15,638
2.—MAIN CANAL AND BRANCHES	7,116	1,072	8,704	1,775	410	2,197	8,801	2,007	10,991
3.—DISTRIBUTARIES ..	3,000	..	3,000	..	..	..	3,500	..	3,500
4.—DRAINAGE AND PROTECTIVE WORKS.	801	..	801	..	..	..	801	..	801
TOTAL I. A. ..	21,205	1,993	23,201	7,145	634	7,626	28,305	2,542	31,030
(I. B)—MAINTENANCE AND REPAIRS.									
1.—HEAD WORKS ..	20,723	811	30,534	10,815	511	23,356	46,828	1,382	50,900
2.—MAIN CANAL AND BRANCHES	99,180	5,212	1,03,692	50,100	1,303	61,403	1,52,592	6,816	1,65,167
3.—DISTRIBUTARIES ..	26,022	813	27,736	180	..	180	27,632	813	27,905
4.—DRAINAGE AND PROTECTIVE WORKS.	832	..	832	..	..	..	832	..	832
TOTAL I. B. ..	1,25,957	6,836	1,62,894	50,095	1,814	61,934	2,30,084	8,630	2,44,734
(I. C).—COMPENSATION ..	10,909	..	10,909	..	..	..	10,909	..	10,909
(II).—ESTABLISHMENT.									
5.—DIRECTION AND ACCOUNT (b)	59,051	3,506	53,381	4,400	136	4,636	51,660	3,935	53,516
(6).—EXECUTIVE ESTABLISHMENT	1,72,739	11,617	1,87,351	18,106	388	16,101	1,08,815	15,001	2,73,546
(7).—MEDICAL Do. ..	6,302	..	6,302	..	..	..	6,302	..	6,302
(7A).—REVENUE Do. ..	1,03,997	602	1,04,599	..	..	..	1,03,997	602	1,04,599
(7D).—LEAVE AND PENSION ALLOWANCES.	..	..	..	2,882	73	2,955	2,882	73	2,955
TOTAL ..	3,33,119	19,017	3,52,136	23,487	594	21,091	3,56,006	10,611	3,70,217
(III).—TOOLS AND PLANT.									
12.—MISCELLANEOUS ..	—082	—31	—120	1,727	34	1,751	4,542	..	4,542
13.—REPAIRS AND CARRIAGE ..	3,507	..	3,507	..	..	..	..	..	..
TOTAL ..	2,815	—31	2,781	1,727	34	1,761	4,542	..	4,542
IV.—REFUNDS OF REVENUE	2,432	..	2,432	20	..	20	2,452	..	2,452
TOTAL ..	5,26,443	27,818	5,54,261	1,12,517	3,105	1,15,622	6,75,000	30,923	6,50,883
Indirect Charges debitable to Revenue Account as per Account No. 5.	46,637	2,002	40,200	..	..	..	46,637	2,552	49,209
TOTAL CHARGES ..	5,73,080	35,480	6,03,560	1,12,517	3,105	1,15,622	6,85,597	33,688	7,10,132
BALANCE NET REVENUE ..	—4,56,610	—8,630	—4,02,510	—1,12,176	3,106	—1,15,281	—5,67,086	—11,735	—5,78,821
GRAND TOTAL ..	1,18,170	21,656	1,40,620	341	..	341	1,18,511	21,850	1,40,361

(a). Includes Rs. 602 as foot for collection of Revenue.

(b). Share of account excluded under Imperial from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ghaggar Canal Project.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	Total.
CAPITAL—	Rs.	Rs.	Rs.
Capitalization of abatement of Land Revenue ..	2,000	..	2,000
Leave and Pension Allowances { Imperial ..	8,792	..	8,792
{ Contribution ..	5,439	..	5,439
Total ..	16,231	..	16,231
<i>Deduct—Leave and Pension Allowances debitable to Bikanir State treated as direct charge and transferred to Account No. 2 of the canal.</i>	5,439	..	5,439
Net debitable to Imperial ..	10,792	..	10,792
REVENUE—			
Capitalization of abatement of Land Revenue ..	..	..	..
Leave and Pension Allowances { Imperial ..	46,637	2,662	49,299
{ Contribution ..	2,882	73	2,955
Total ..	49,519	2,735	52,254
<i>Deduct—Leave and Pension Allowances debitable to Bikanir State treated as direct charge and transferred to Account No. 2 of the canal.</i>	2,882	73	2,955
Total ..	46,637	2,662	49,299

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

Particulars.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate.	Expenditure against open canal sanctions.	Total.	Charges to date.	Amount of sanctioned Estimate.	Unspent Balance of Estimate.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES—								
Works ..	4,08,214	35,027	4,43,241	..	..	..	4,43,241	
Establishment ..	1,00,970	6,111	1,07,081	..	..	..	1,07,081	
Tools and Plant ..	10,048	409	10,457	..	..	..	10,457	
Total ..	5,09,232	41,547	5,50,779	..	..	..	5,50,779	
<i>Less Receipts on Capital Account.</i>								
Not Total ..	5,09,232		5,50,779	..	..	..	5,50,779	
INDIRECT CHARGES—								
Capitalized abatement of Land Revenue.	1,901	100	2,001	..	..	..	2,000	
Leave and Pension Allowances.	7,068	824	8,792	..	..	..	8,792	
Total ..	8,969	924	10,792	..	..	..	10,792	
GRAND TOTAL ..	6,18,100	42,471	6,60,571	..	..	..	6,61,571	

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Sutlej Inundation Canals including Hajiwah Canal Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates	32,05,804	3,16,934	35,22,738	(I A.)—EXTENSIONS AND IMPROVEMENTS.			
				2.—MAIN CANAL AND BRANCHES	8,20,281	42,321	8,71,602
				3.—DISTRIBUTARIES ..	1,38,827	3,601	1,42,428
				4.—DRAINAGE AND PROTECTIVE WORKS.	5,688	..	5,688
Sales of water	2,458	178	2,636	TOTAL I.A. ..	0,78,796	46,922	10,18,718
				(I B.)—MAINTENANCE AND REPAIRS.			
Receipts from Plantations..	64,642	2,495	67,137	2.—MAIN CANAL AND BRANCHES	27,11,755	75,680	27,87,441
				3.—DISTRIBUTARIES ..	1,49,031	10,833	1,60,764
				4.—DRAINAGE WORKS ..	3,540	..	3,540
				TOTAL I.B. ..	28,65,226	86,510	29,51,746
Receipts from other Canal produce.	33,808	186	33,994	I.C.—COMPENSATION ..	4,004	100	4,194
				(II)—ESTABLISHMENT ..			
Rent of Buildings	54,303	1,721	56,024	5.—DIRECTION AND ACCOUNT	4,89,476	(b) 11,679	4,92,155
				6.—EXECUTIVE ESTABLISHMENT	15,00,510	49,069	15,50,479
				7.—MEDICAL do. ..	24,709	1,383	26,092
				7A.—REVENUE do. ..	4,28,679	30,200	(a) 4,58,879
				TOTAL ..	24,40,274	93,291	25,33,565
Miscellaneous and other Receipts.	54,303	1,721	56,024	III.—TOOLS AND PLANT			
				1.—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS	..	75	75
				2.—PLANT AND MACHINERY	..	..	..
				3.—TOOLS ..	108	60	177
				4.—NAVIGATION PLANT ..	..	..	..
				5.—CAIT EQUIPMENT ..	32	..	32
				6.—LIFT STOCK ..	..	..	..
				7.—OFFICE FURNITURE ..	33	211	244
				8.—REPAIRS AND CARRIAGE	17,287	1,284	18,571
				MISCELLANEOUS ..	27,432	—183	27,249
Total	34,61,015	3,21,214	37,82,229	TOTAL ..	44,802	1,456	46,348
				IV.—REFUNDS OF REVENUE.	3,318	180	3,504
Contribution	12,45,839	..	12,45,839	V.—PROFIT AND LOSS ..	348	..	348
				SUBSIDIES ACCOUNT.			
Chhar Labour	39,24,410	..	39,24,410	Miscellaneous Advances ..	38	—39	—1
				Stock ..	22,761	—683	22,178
				Stock Purchases ..	1	..	1
				Stock Sales ..	..	..	..
				TOTAL ..	22,800	—922	22,178
Share of Land Revenue collected in the Civil Department.	3,05,700	61,49,872	64,55,572	TOTAL ..	63,64,748	2,26,862	66,81,610
				Chhar Labour ..	39,24,410	..	39,24,410
				TOTAL ..	1,02,79,158	2,26,862	1,05,06,010
				Indirect Charges debitable to Revenue Account as per Account No. 5.	3,74,739	13,061	3,87,800
TOTAL RECEIPTS	1,77,81,136	6,26,914	1,84,08,050	TOTAL CHARGES ..	1,06,63,897	2,30,911	1,08,94,810
				Balance, Net Revenue ..	71,27,235	3,87,901	75,14,240
				GRAND TOTAL ..	1,77,81,136	6,26,914	1,84,08,050

(a) Includes Rs. 9,080 an account of fees for collection of Revenue.

(b) Excludes accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Sutlej Inundation Canals including Hajiwah Canal Project.

No 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916 17

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
REVENUE—			
Capitalization abatement of Land Revenue ...	5	...	5
Leave and Pension Allowances ...	3,74,734	13,061	3,87,795
Total ...	3,74,739	13,061	3,87,800

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OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Sutlej Inundation Canals including Hajiwah Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

Receipts.	IMPERIAL.			CHARGES	IMPERIAL.		
	Previous	1916-17.	Total		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates ..	4,05,624	22,124	6,15,015	(I A.)—EXTENSIONS AND IMPROVEMENTS.	35,750	—2,325	33,425
				(2)—MAIN CANAL & BRANCHES..	17	..	15
				(3)—DISTRIBUTARIES ..			
				TOTAL I. A. ..	35,750	—2,325	33,440
Sales of water ...	11	..	11	(I. B.)—MAINTENANCE AND REPAIRS.			
				(2)—MAIN CANAL & BRANCHES	2,01,781	6,052	2,67,833
Receipts from Plantations	157	..	157	(3)—DISTRIBUTARIES ..	12	..	12
				TOTAL I. B. ..	2,01,793	6,052	2,67,845
Receipts from other Canal produce.	30	..	30	(I. C.)—COMPENSATION.			
				II. ESTABLISHMENT.			
Miscellaneous and other Receipts.	90	..	90	(5)—DIRECTION AND ACCOUNT..	(b) 30,008	..	30,008
				(6)—EXECUTIVE ESTABLISHMENT	76,219	1,691	77,910
				(7A.)—REVENUE Do. ..	35,161	(a) 2,437	37,595
				TOTAL ..	1,41,388	4,025	1,45,415
Total ..	4,35,917	22,124	5,19,341	(III)—TOOLS AND PLANT,			
				(9.) NAVIGATION PLANT ..	2,674	43	2,717
				(12)—MISCELLANEOUS ..			
				(13.)—REPAIRS AND CARRIAGE...			
				TOTAL ..	2,674	43	2,717
				(IV.)—REFUNDS OF REVENUE	620	..	620
				(V.)—PROFIT AND LOSS			
				TOTAL ..	4,42,240	7,708	1,50,035
Share of Land Revenue collected in the Civil Department.	4,74,637	30,231	5,04,815	Indirect Charges debitable to Revenue Accounts per Account No. 5.	19,704	561	20,365
Interest on sale proceeds of waste lands benefited.							
				TOTAL CHARGES ..	4,62,031	8,302	4,70,396
	4,74,637	30,231	5,04,815	Balance, Not Revenue ..	5,08,570	44,293	5,52,863
TOTAL RECEIPTS ...	9,70,604	52,656	10,33,250	GRAND TOTAL ...	9,70,604	52,656	10,33,250

(a). - Includes Rs. 650 on account of fees paid for collection of Revenue.

(b). Excludes accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNT. FOR THE YEAR 1916-17.

Lower Sutlej Inundation Canals Hajiwah Canal Project.

No. 5. ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
Revenue—			
Leave and Pension Allowances	19,794	564	20,358
Total	19,794	564	20,358

IRRIGATION BRANCH.

PUNJAB PROVINCE

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Chenab Inundation Canals Project.

No. 3.—REVENUE ACCOUNTS FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates ..	26,40,202	1,03,725	28,33,057	I. A.—EXTENSIONS AND IMPROVEMENTS.			
Sales of water ..	3,509	119	3,627	2.—MAIN CANAL AND BRANCHES	8,88,000	14,112	0,03,012
Receipts from Plantations	62,701	1,002	64,601	3.—DISTRIBUTARIES ..	1,40,000	0,249	1,50,248
Receipts from other Canal produce.	42,316	20	42,336	4.—DRAINAGE AND PROTECTIVE WORKS.	25,101	315	25,446
Rent of Buildings ..	1,390	235	1,631	TOTAL I. A. ..	10,53,000	23,706	10,76,706
Fines ..	39,746	639	40,327	(I. B.)—MAINTENANCE AND REPAIRS.			
Miscellaneous and other Receipts.	2,325	403	3,528	2.—MAIN CANAL AND BRANCHES	31,67,170	07,011	32,34,781
Total ..	2,52,729	1,97,217	30,20,045	3.—DISTRIBUTARIES ..	1,25,231	8,295	1,33,576
Contribution ..	11,47,600	..	11,47,600	4.—DRAINAGE WORKS ..	91,749	2,187	03,936
Other Labour ..	21,08,114	..	21,08,114	TOTAL I. B. ..	3,41,200	78,003	34,62,203
Share of Land Revenue collected in the Civil Department.	66,30,318	2,16,705	68,77,113	I. C.—COMPENSATION ..	1,032	..	1,032
TOTAL RECEIPTS ..	1,60,08,736	4,44,012	1,64,52,770	II.—ESTABLISHMENT.			
				5.—DIRECTION AND ACCOUNT ..	5,11,513	(b) 10,455	5,22,260
				6.—EXECUTIVE ESTABLISHMENT			
				7.—MEDICAL do. ..	16,41,51	2 (a) 36,41	16,77,685
				(7A).—Revenue do. ..			
				TOTAL ..	21,53,025	40,902	21,92,92
				III.—TOOLS AND PLANT.			
				12.—MISCELLANEOUS	31,011	497	31,511
				13.—REPAIRS AND CARRIAGE ..			
				TOTAL ..	31,011	407	31,511
				IV.—REFUNDS OF REVENUE	9,356	215	0,09,691
				V.—PROFIT AND LOSS ..	425	..	425
				TOTAL ..	66,34,952	1,40,443	67,84,300
				CIVIL LABOUR ..	21,08,111	..	24,08,114
				TOTAL ..	90,43,066	1,40,443	91,92,609
				Indirect Charges Debitable to Revenue Account as per Account No. 6 ..	3,51,254	6,595	3,57,820
				TOTAL CHARGES ..	93,91,320	1,56,009	95,50,329
				Balance, Net Revenue ..	60,14,414	2,88,033	69,02,417
				GRAND TOTAL ..	1,00,08,734	4,44,012	1,04,52,776

(a) Includes Rs. 5,405 on account of fees for collection of Revenue.
 (b) Excludes accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Chenab Inundation Canals Project.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
Revenue—			
Capitalization of abatement of Land Revenue ...	8,536	...	8,536
Leave and Pension Allowances ...	3,42,718	6,566	3,49,284
Total ...	3,51,254	6,566	3,57,820

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Muzaffargarh Inundation Canals Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates.. ..	31,46,582	3,22,655	34,69,237	(I A.)—EXTENSIONS AND IMPROVEMENTS.			
				2.—MAIN CANAL AND BRANCHES ..	7,16,601	11,015	7,30,416
				3.—DRAIN CAPIES ..	09,526	21,548	1,24,073
Sale of water	1,632	220	1,362	1.—DRAINAGE AND PROTECTIVE WORKS.	20,336	..	20,338
				TOTAL I. A. ...	8,46,463	30,407	8,74,827
				(I B.)—MAINTENANCE AND REPAIRS.			
Receipts from Plantations ..	1,18,675	15,117	1,33,792	2.—MAIN CANAL AND BRANCHES ..	28,55,726	1,31,633	20,97,350
				3.—DISTRIBUTARIES ..	2,00,203	44,027	3,13,320
				4.—DRAINAGE WORKS ..	38,575	816	30,633
				TOTAL I. B. ...	31,03,807	1,76,476	33,40,372
Receipts from other Canal produce.	7,250	281	7,531	(I C.)—COMPENSATION, IL—ESTABLISHMENT.	7,632	..	7,632
				5.—DIRECTION AND ACCOUNT.	6,12,572	(b) 21,107	6,33,079
Fines	29,783	277	21,000	6.—EXECUTIVE ESTABLISHMENT.	11,05,853	63,310	11,69,202
				(7A.)—REVENUE DO. ...	6,62,591	(a) 30,051	7,00,572
				TOTAL ...	26,98,310	1,21,107	28,09,453
Miscellaneous and other Receipts	7,711	1,766	9,480	III.—TOOLS AND PLANT.			
				1.—SCIENTIFIC INSTRUMENTS	119	219	357
				2.—PLANT AND MACHINERY	..	..	..
				3.—TOOLS ..	978	518	1,406
				4.—NAVIGATION ..	..	..	..
				5.—CAMP EQUIPMENT ..	11	71	83
				6.—LIVE STOCK ..	..	..	..
				7.—OFFICE FURNITURE ..	220	140	307
				8.—REPAIRS AND CARRIAGE ..	10,894	1,253	21,167
				12.—MISCELLANEOUS ..	37,010	—314	36,696
Total	33,00,655	3,37,324	36,38,013	TOTAL TOOLS AND PLANT. ...	58,224	1,925	60,153
				IV.—REFUNDS OF REVENUE.	1,131	40	1,180
Contribution	8,01,270	..	8,01,270	V.—PROFIT AND LOSS.	4	..	4
Chlor labour	24,31,233	..	24,31,233	SUSPENSE ACCOUNT.			
				Miscellaneous advances ..	71	100	261
				Stock ..	46,208	124	46,322
				Stock sales ..	..	..	..
				Stock purchases ..	—27	—1,813	—1,840
				London stores ..	..	..	..
				TOTAL ..	40,342	—1,490	41,843
Total	65,80,107	3,37,328	69,73,626	Chlor labour ..	24,31,233	..	24,31,233
				TOTAL ..	92,38,177	3,31,620	95,72,697
Share of Land Revenue collected in the Civil Department.	1,00,22,700	4,10,610	1,10,39,358	Indirect Charges debitable to Revenue Account as per Account No. 5.	3,05,052	10,955	4,12,007
				TOTAL CHARGES ..	00,34,120	2,51,475	00,85,601
				Balance, Not Revenue ..	75,21,837	4,02,472	70,27,309
TOTAL RECEIPTS	1,71,88,006	7,53,017	1,70,12,913	GRAND TOTAL ..	1,71,58,066	7,53,017	1,70,12,913

(a.) Includes Rs. 0,461 on account of fees for collection of Revenue.

(b.) Excludes share of accounts commencing from 1912-13.

IRRIGATION BRANCH.

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OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Muzaffargarh Inundation Canals Project.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
REVENUE—			
Capitalization statement of Land Revenue	18,355	..	18,355
Leave and Pension Allowances	3,77,597	16,955	3,94,552
Total ...	3,96,052	16,955	4,12,907

OFFICE OF ACCOUNTANT-GENERAL

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Shahpur Canal Project—Provincial.

No. 3—REVENUE ACCOUNTS FOR AND TO END OF 1916-17.

RECEIPTS.	PROVINCIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	(I.A.)—EXTENSIONS AND IMPROVEMENTS.	Rs.	Rs.	Rs.
				2—MAIN CANAL AND BRANCHES	33,683	..	33,683
				3—DISTRIBUTARIES ..	11,487	...	11,487
Occupiers' rates ..	8,48,477	31,502	8,80,309	TOTAL I.A. ..	45,070		45,070
				(I.B.)—MAINTENANCE AND REPAIRS.			
Sales of water ..	7,423	600	8,023	2—MAIN CANAL AND BRANCHES	2,38,807	23,476	2,62,283
				3—DISTRIBUTARIES ..	67,351	2,042	70,043
Receipts from Plantations	5,103	...	5,103	TOTAL I.B. ..	3,06,158	25,518	3,32,320
				(I.C.)—COMPENSATION ..	02		62
				II—ESTABLISHMENT ..			
Receipts from other Canal produce.	490	...	490	5—DIRECTION AND ACCOUNTS	51,311	5,370	56,711
Water power ..	920	...	920	6—EXECUTIVE ESTABLISHMENT			
Fines ..	713	..	713	7.—OFFICIAL Do. ...	3,21,303	13,438	3,37,801
				7.A.—REVENUE Do. ...			
				TOTAL ..	3,75,704	18,808	3,94,512
				III—TOOLS AND PLANT ..			
Miscellaneous and other Receipts.	3,603	..	3,603	12.—MISCELLANEOUS ..	1,437	...	1,437
				13.—REPAIRS AND CARRIAGE ..	1,693	...	1,693
				TOTAL ..	3,130		3,130
Total ..	8,66,830	32,402	8,99,322	V.—PROFIT AND LOSS ..	610	...	610
				TOTAL ..	7,30,740	44,970	7,75,710
Share of Land Revenue collected in the Civil Department.	1,75,204	12,973	1,88,177	Indirect Charges debitable to Revenue Account as per Account No. 5.	54,290	2,028	56,023
				TOTAL CHARGES ..	7,85,030	47,000	8,32,039
				Balance, Not Revenue ..	2,57,004	—2,144	2,54,860
TOTAL RECEIPTS ..	10,42,034	45,405	10,87,409	GRAND TOTAL ..	10,42,034	45,405	10,87,409

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OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Shahpur Canal Project.—Provincial.

No 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916 17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
REVENUE—			
Capitalization of abatement of Land Revenue	1,693	...	1,693,
Leave and Pension Allowances	52,597	2,633	55,230
Total	54,290	2,633	56,923

IRRIGATION BRANCH.

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OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ravi Inundation Canals Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	I A.—EXTENSIONS AND IMPROVEMENTS.	Rs.	Rs.	Rs.
Occupiers' rates	1,03,273	..	1,03,273	2.—MAIN CANAL AND BRANCHES	500	..	500
				TOTAL I. A.	500	..	500
				II.—MAINTENANCE AND REPAIRS.			
Sales of water	297	..	297	1.—MAIN CANAL AND BRANCHES	89,597	..	89,597
				7.—DISTRIBUTARIES	9,522	..	9,522
				TOTAL I. B.	99,119	..	99,119
Fines	34	..	34	I. C.—COMPENSATION	34	..	34
				II.—ESTABLISHMENT.			
				(a) 1.—DIRECTION AND ACCOUNT	19,913	2,109	22,052
Miscellaneous and other receipts.	8	..	8	6.—EXECUTIVE ESTABLISHMENT			
				7.—MEDICAL do.	1,15,063	..	1,15,063
				7A.—REVENUE do.			
				TOTAL	1,34,996	2,109	1,37,105
				III. TOOLS AND PLANT.			
				12.—MISCELLANEOUS	1,722	..	1,722
TOTAL ..	1,03,614	..	1,03,614	13.—REPAIRS AND CARRIAGE..	915	..	915
				TOTAL	2,637	..	2,637
				IV.—REFUNDS OF REVENUE	1,000	..	1,000
				TOTAL	2,30,292	2,109	2,40,401
Share of Land Revenue collected in the Civil Department.	1,30,303	3,222	1,29,685	Indirect Charges debitable to Revenue Account per Account No. 5.	18,899	296	19,104
				TOTAL CHARGES	2,67,191	2,401	2,59,596
				Balance, Not Revenue	—25,214	818	—24,396
TOTAL RECEIPTS ..	2,31,977	3,222	2,35,199	GRAND TOTAL	2,31,977	3,222	2,35,199

(a). Share of Account excluded from 1912-13.

IRRIGATION BRANCH.

OFFICE OF ACCOUNTANT-GENERAL.

PUNJAB PROVINCE.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ravi Inundation Canals Project.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17	Total.
	Rs.	Rs.	Rs.
REVENUE—			
Leave and Pension Allowances ...	18,899	295	19,194
Total ...	18,899	295	19,194

